# DATA RECORD OF CURRENT OBSERVATIONS
## VOLUME VII

JOHNSTONE STRAIT

1976, 1977, 1978



W.S. Huggett, R.E. Thomson, M.J. Woodward, A.N. Douglas

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V8L 4B2

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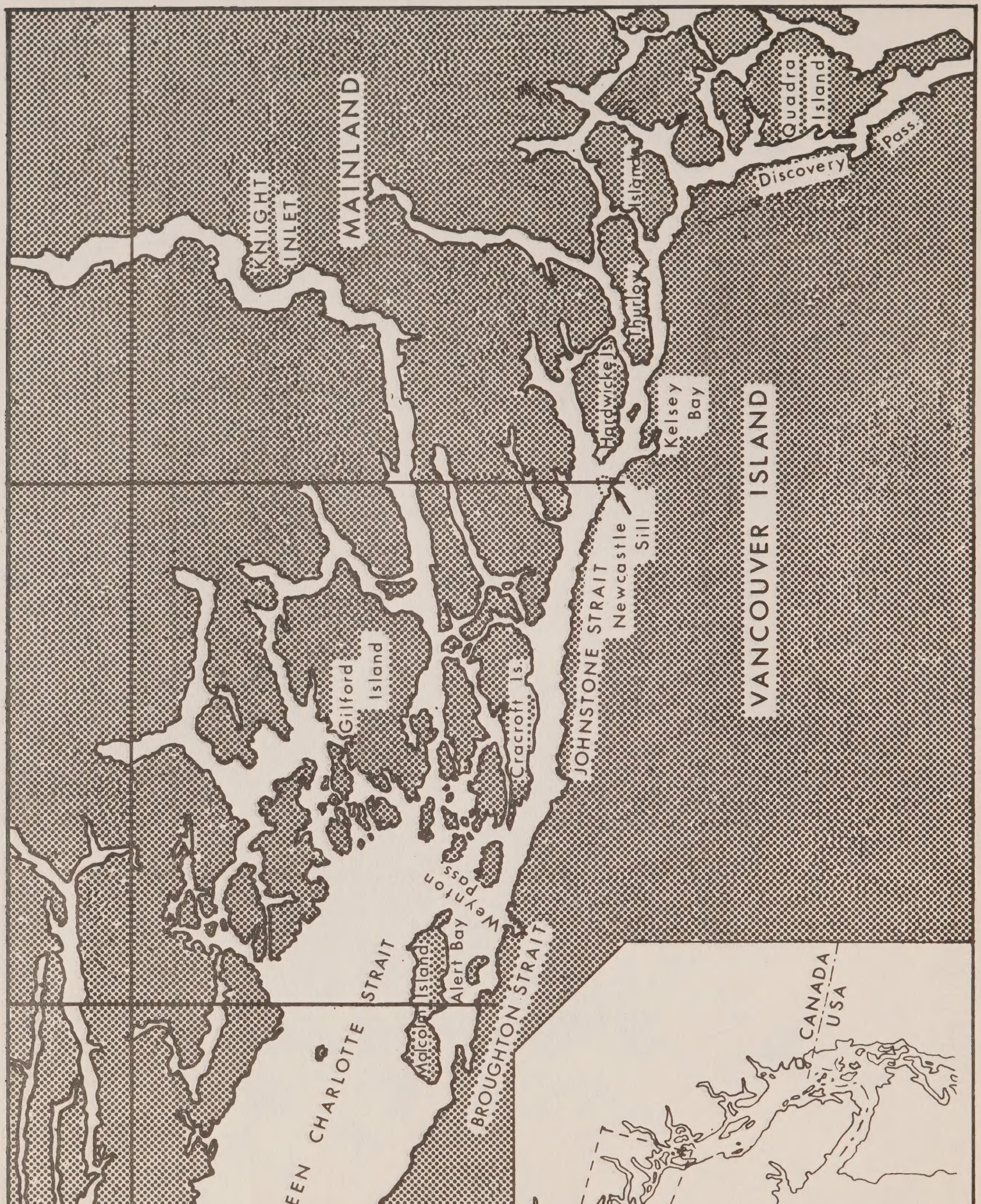
1980


MAINLAND
KNIGHT INLET
Quadra Island
Discovery Pass.
Islands
Thurlow
Hardwicke Is.
Kelsey Bay
VANCOUVER ISLAND
Newcastle Sill
JOHNSTONE STRAIT
Gilford Island
Cracroft Is.
Weynton Pass
Alert Bay
Malcolm Island
QUEEN CHARLOTTE STRAIT
BROUGHTON STRAIT
CANADA
USA
Vancouver Island
PACIFIC OCEAN

# INDEX

## 1. Introduction

The measurements recorded here were taken in Johnstone Strait in the years 1976, 1977 and 1978 to gain some knowledge of the propagation of the tidal wave and streams along the Strait, and to investigate the internal tide that was found to be present in the area of Hickey Point in 1973. Continuous current meter records were taken at seven stations along the length of the Strait and two in Queen Charlotte Strait, with continuous temperature and conductivity records also taken at most locations. During the course of these surveys ten oceanographic cruises were carried out with CTD measurements taken at thirty stations stretching from south of Cape Mudge in the Strait of Georgia to Gordon and Goletas Channels in Queen Charlotte Strait. At twenty of these stations dissolved oxygen, silicate, nitrate and phosphate samples were taken. Bottom grab samples were also taken along the Strait from Yorke Island west to Hanson Island. The oceanographic data are recorded in Volume VIII of this series.

## 2. Instrument Deployment

In 1976 two stations were occupied for a period of 2 months; 003 (1973) and a new station 006, 11½ km to the west of station 003. Of the six instruments put down, two (both CMDR type current meters) failed to function. In 1977 eight stations were occupied for a period of 9 days each (Fig. 1 (insert)) using 15 Aanderaa current meters and two Geodyne current meters. Table I shows the meter performance for the three years.

The high incidence of instrument failures for the year 1977 was a direct result of the large amount of tug and barge traffic that passes through Johnstone Strait on its way up and down the coast. The current meters placed at the 15 m depth were particularly vulnerable, along with the subsurface float, to the tow lines with their very deep catenaries.

## 3. Tidal Data

The consituents from the harmonic analysis of the tide gauges deployed during this survey are also shown. The gauges used were Aanderaa type 2A pressure recorders, and the amplitudes of the constituents are given in millibars.

## 4. Observations

For a summary of the data in this volume and that of volume VIII of this series, see volume XVII of this series.

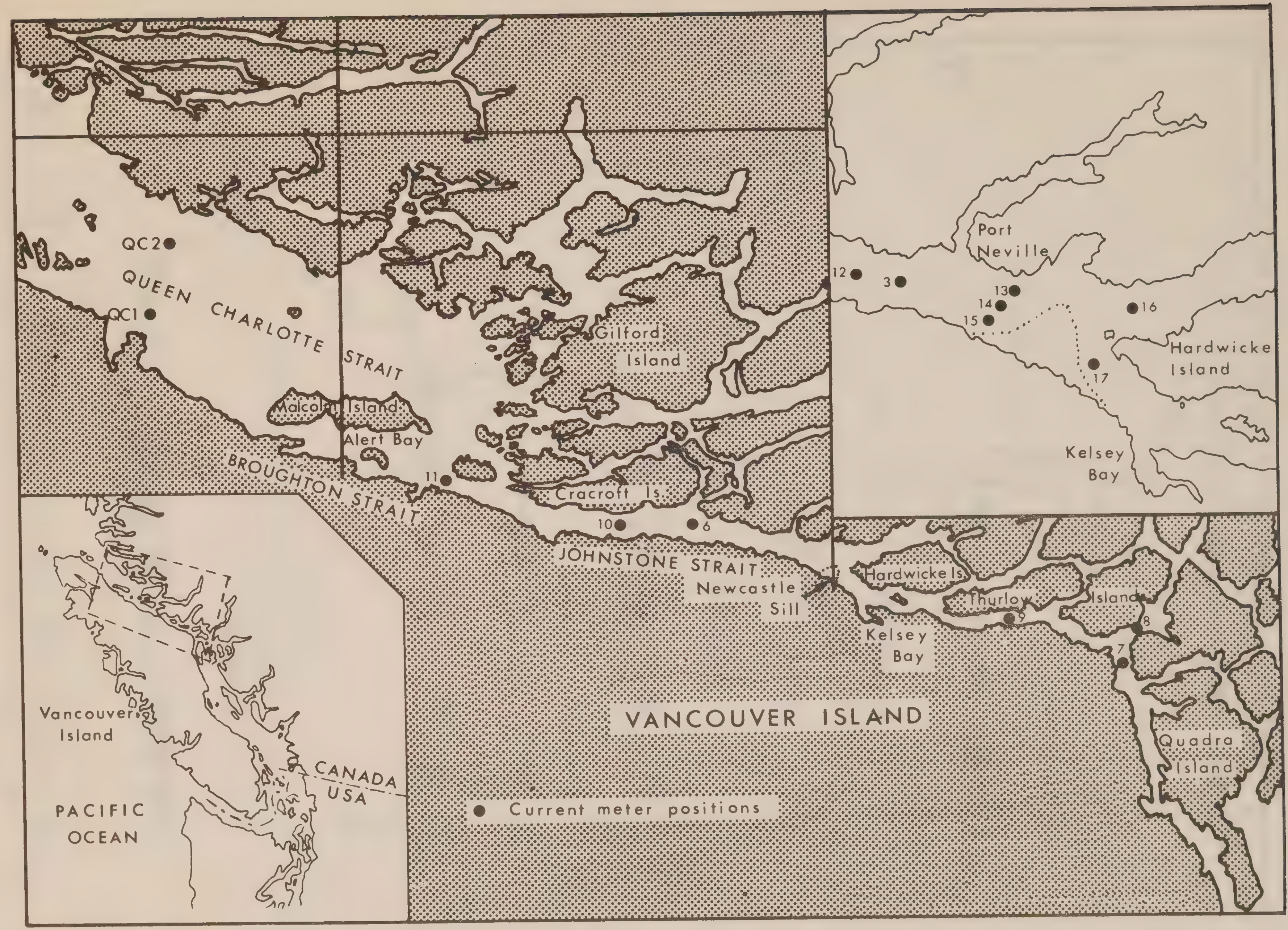



Fig. 1 Current Meter Positions

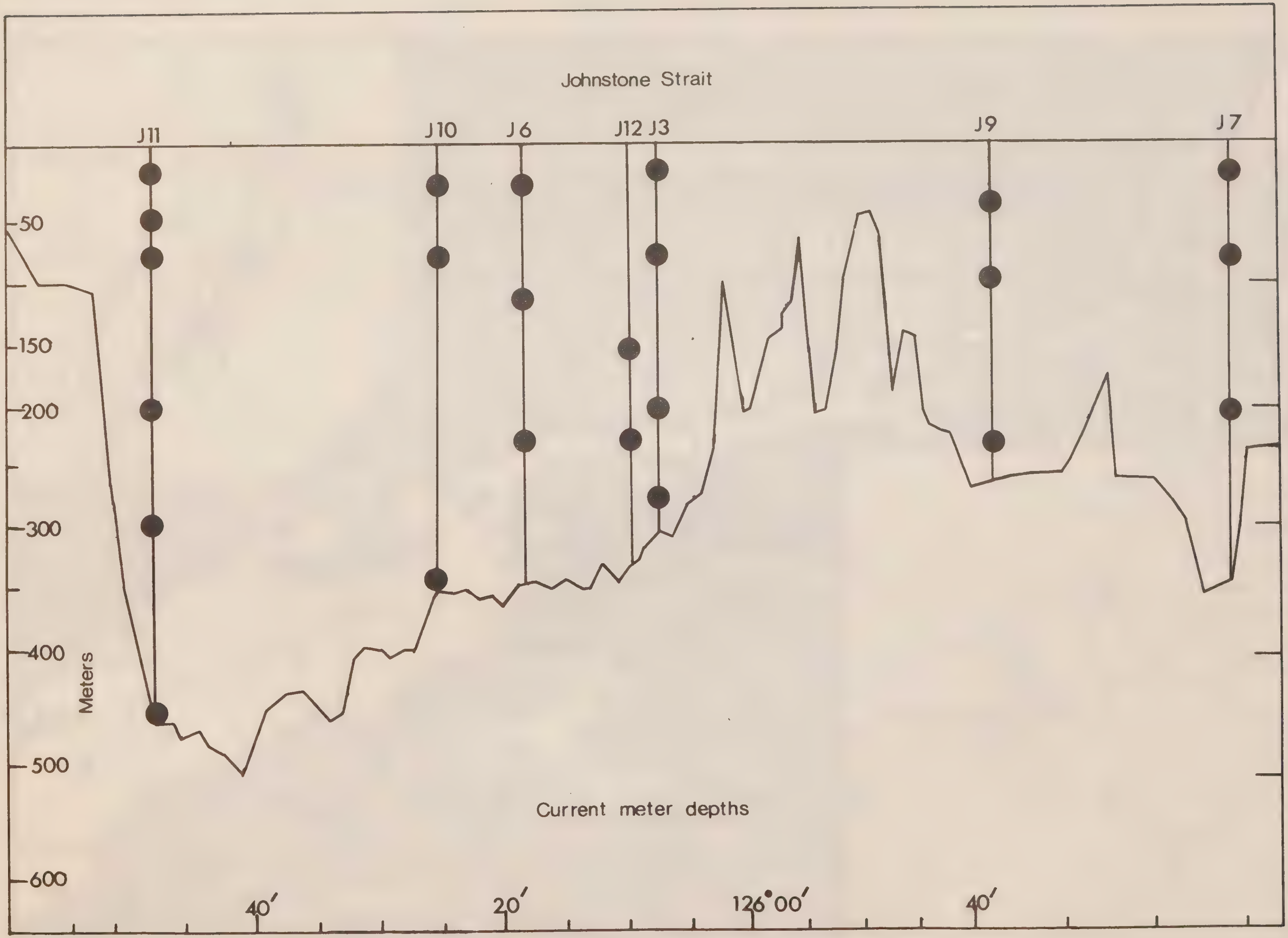



Fig 2 Current Meter Depths

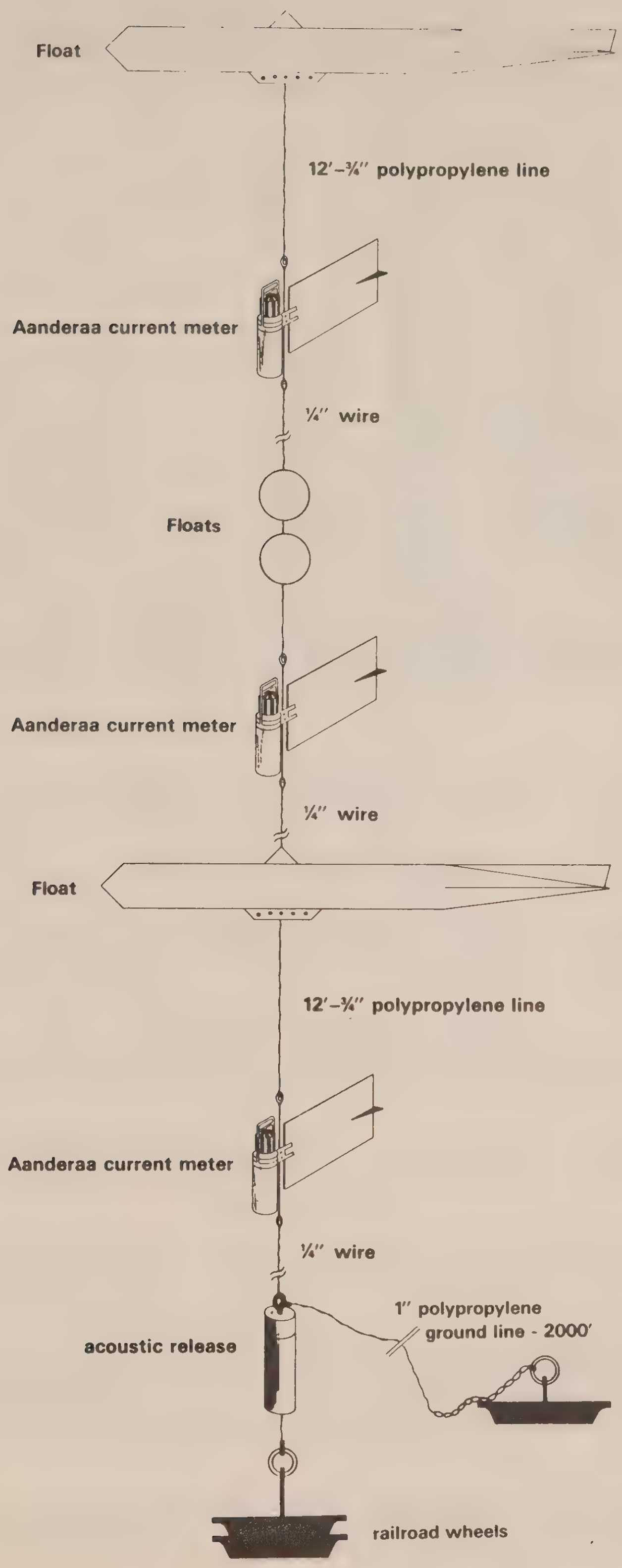



Fig. 3  A typical instrument mooring used in Johnstone Strait.

| STATION | METER | DATE | DAYS | SPEED | DIR. | TEMP. | PRESSURE | COND. | REMARKS | % |
|---|---|---|---|---|---|---|---|---|---|---|
| J03020 | 84 | 220476 | 45 | 45 | 45 | | | | line cut by tow | 80 |
| J03110 | 75 | 220476 | 00 | | | | | | dropped on deck at start | 0 |
| J03225 | 1461 | 220476 | 56 | 56 | 56 | 56 | 56 | 56 | | 100 |
| J06020 | 86 | 220476 | 64 | 64 | 64 | | | | | 100 |
| J06110 | 87 | 220476 | 00 | | | | | | Impeller faulty | 0 |
| J06225 | 1460 | 220476 | 64 | 64 | 64 | 64 | 64 | 64 | | 100 |
| J03023 | 1460 | 290177 | 32 | 32 | 32 | 32 | 32 | 32 | | 100 |
| J03023 | 1460 | 030377 | 73 | 49 | 49 | 49 | 49 | 49 | line cut | 67 |
| J03075 | V246 | 290177 | 32 | | | | | | data lost when meter lost on | 0 |
| J03075 | V246 | 030377 | 73 | | | | | | second deployment | 0 |
| J03200 | 508 | 290177 | 32 | | | | | | no results - low battery | 0 |
| J03200 | 314 | 030377 | 72 | 49 | 49 | 49 | 49 | 49 | line cut | 68 |
| J03275 | 736 | 290177 | 32 | 32 | 32 | 32 | | 32 | | 100 |
| J03275 | 736 | 030377 | 72 | 49 | 49 | 49 | | 49 | line cut | 68 |
| J07010 | 839 | 010277 | 30 | | | | | | lost - mooring cut by tow line | 0 |
| J07010 | 2581 | 080377 | 66 | 66 | 66 | 66 | 66 | 66 | | 100 |
| J07072 | 1022 | 010277 | 30 | 3 | 3 | 3 | 3 | 3 | mooring cut after 3 days | 10 |
| J07072 | 1022 | 080377 | 63 | 63 | 63 | 63 | 63 | 63 | weed on rotor | 97 |
| J07200 | 432 | 010277 | 30 | 3 | 3 | 3 | 3 | 3 | mooring cut after 3 days | 10 |
| J07177 | 432 | 080377 | 66 | 66 | 66 | 66 | 66 | | | 100 |
| J08290 | 1457 | 010277 | 35 | 35 | 35 | 35 | 35 | 35 | | 100 |
| J08290 | 1457 | 080377 | 63 | 34 | 34 | 34 | 34 | 34 | | 100 |
| J09030 | 1458 | 290177 | 37 | 37 | 37 | 37 | 37 | 37 | | 100 |
| J09030 | 1458 | 080377 | 64 | 24 | 3 | 24 | 24 | 24 | compass stuck | |
| J09086 | 1459 | 290177 | 37 | 37 | 37 | 37 | 37 | 37 | | 100 |
| J09086 | 1459 | 080377 | 64 | 24 | 24 | 24 | 24 | 24 | line cut | 41 |
| J09225 | 211 | 290177 | 37 | 37 | 37 | 37 | | | | 100 |
| J09225 | 211 | 080377 | 64 | | | | | | lost - mooring cut by tow line | 0 |
| J10022 | 1461 | 290177 | 32 | 32 | 32 | 32 | 32 | 32 | | 100 |
| J10022 | 98 | 030377 | 64 | 37 | 37 | 37 | 37 | | wire parted above floats | 56 |
| J10080 | 98 | 290177 | 32 | 32 | 32 | 32 | 32 | | | 100 |
| J10087 | 2580 | 030377 | 66 | 36 | 36 | 36 | 36 | 36 | | 56 |
| J10325 | V245 | 290177 | | | | | | | | |
| J10325 | V245 | 030377 | 97 | 97 | 97 | 97 | | | | 100 |
| J11015 | 507 | 300177 | 34 | 4 | 4 | 4 | | 4 | upper floatation collapsed | 8 |
| J11035 | 1603 | 050377 | 71 | 2 | 2 | 2 | 2 | 2 | wire broke above release | 0 |
| J11085 | 1603 | 300177 | 34 | 4 | 4 | 4 | 4 | 4 | wire broke above release | 8 |

| STATION | METER | DATE | DAYS | SPEED | DIR. | TEMP. | PRESSURE | COND. | REMARKS | % |
|---|---|---|---|---|---|---|---|---|---|---|
| J11200 | 507 | 050377 | 71 | 2 | 2 | 2 | | 2 | upper flotation collapsed | 0 |
| J11315 | 1604 | 300177 | 34 | 4 | 4 | 4 | 4 | 4 | wire broke above release | 8 |
| J11290 | 1604 | 050377 | 71 | 2 | 2 | 2 | 2 | 2 | wire broke above release | 0 |
| J11450 | 506 | 300177 | 34 | 4 | 4 | 4 | | 4 | wire broke above release | 8 |
| J11450 | 506 | 050377 | 71 | 2 | 2 | 4 | | 2 | wire broke above release | 0 |
| Q01015 | 1605 | 300177 | 34 | 34 | 34 | 34 | 34 | 34 | | 100 |
| Q01015 | 1605 | 050377 | 71 | 71 | 71 | 71 | 71 | 71 | | 100 |
| Q01075 | 333 | 300177 | 33 | 33 | 33 | 33 | | | | 100 |
| Q01075 | 333 | 050377 | 71 | 71 | 71 | 71 | | | | 100 |
| Q02025 | 2578 | 300177 | 33 | 33 | 33 | 33 | 33 | 33 | | 100 |
| Q02040 | 362 | 050377 | 71 | 71 | 71 | 71 | 71 | | | 100 |
| Q02085 | 362 | 300177 | 33 | 33 | 33 | 33 | | 33 | | 100 |
| Q02075 | 2525 | 050377 | 71 | 71 | 71 | 71 | 71 | | | 100 |
| Q02300 | 1606 | 300177 | 33 | 33 | 33 | 33 | 33 | 33 | | 100 |
| Q02300 | 1606 | 050377 | 71 | 71 | 71 | 71 | 71 | 71 | | 100 |
| J03235 | 2525 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J12155 | 1460 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J12230 | 3547 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J13055 | 1606 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J13160 | 1604 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J13245 | G245 | 240578 | 8 | | | | | | faulty electronic board | 0 |
| J13245 | 1457 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J14050 | 2579 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J14155 | 3546 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J14250 | G231 | 240578 | 8 | 8 | 8 | 8 | | | | 100 |
| J14250 | 507 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J15055 | 2610 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J15160 | 1603 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J15255 | 1458 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J16018 | 2581 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J16055 | 1605 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |
| J17195 | 736 | 240578 | 8 | 8 | 8 | 8 | 8 | 8 | | 100 |

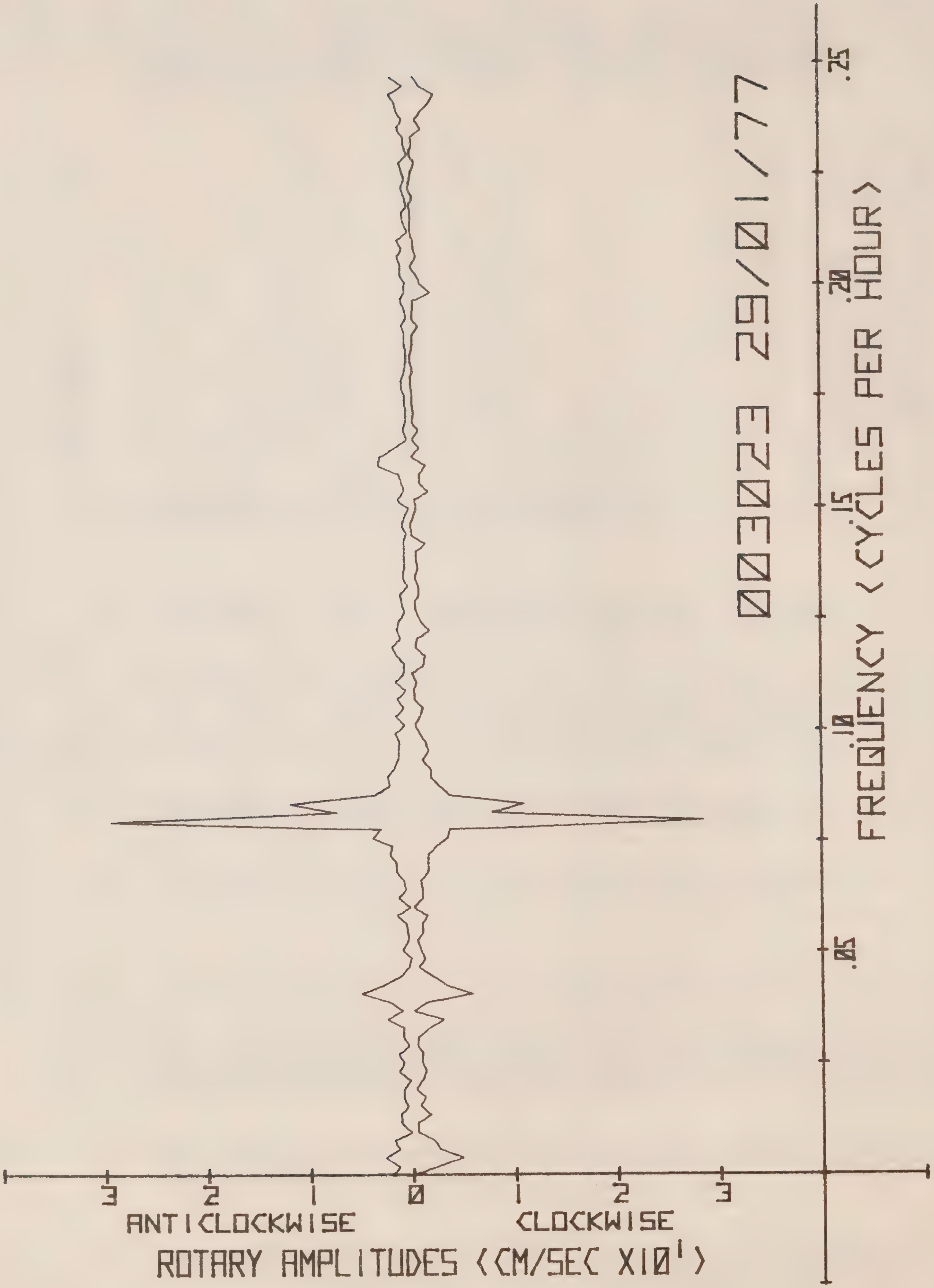
V = vector averaging current meters

G = geodyne current meters

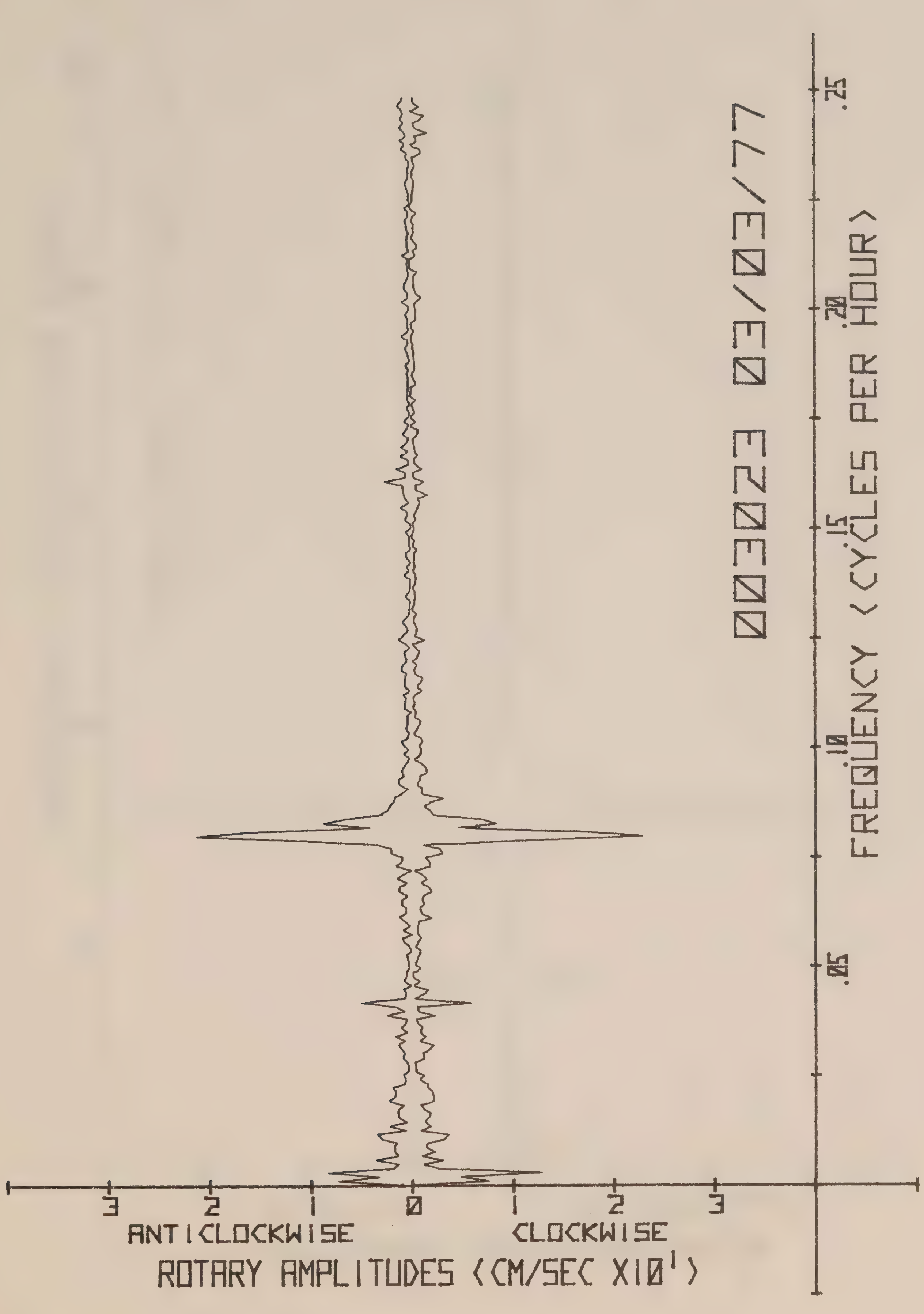
No.$\angle$90 = CMDR current meters

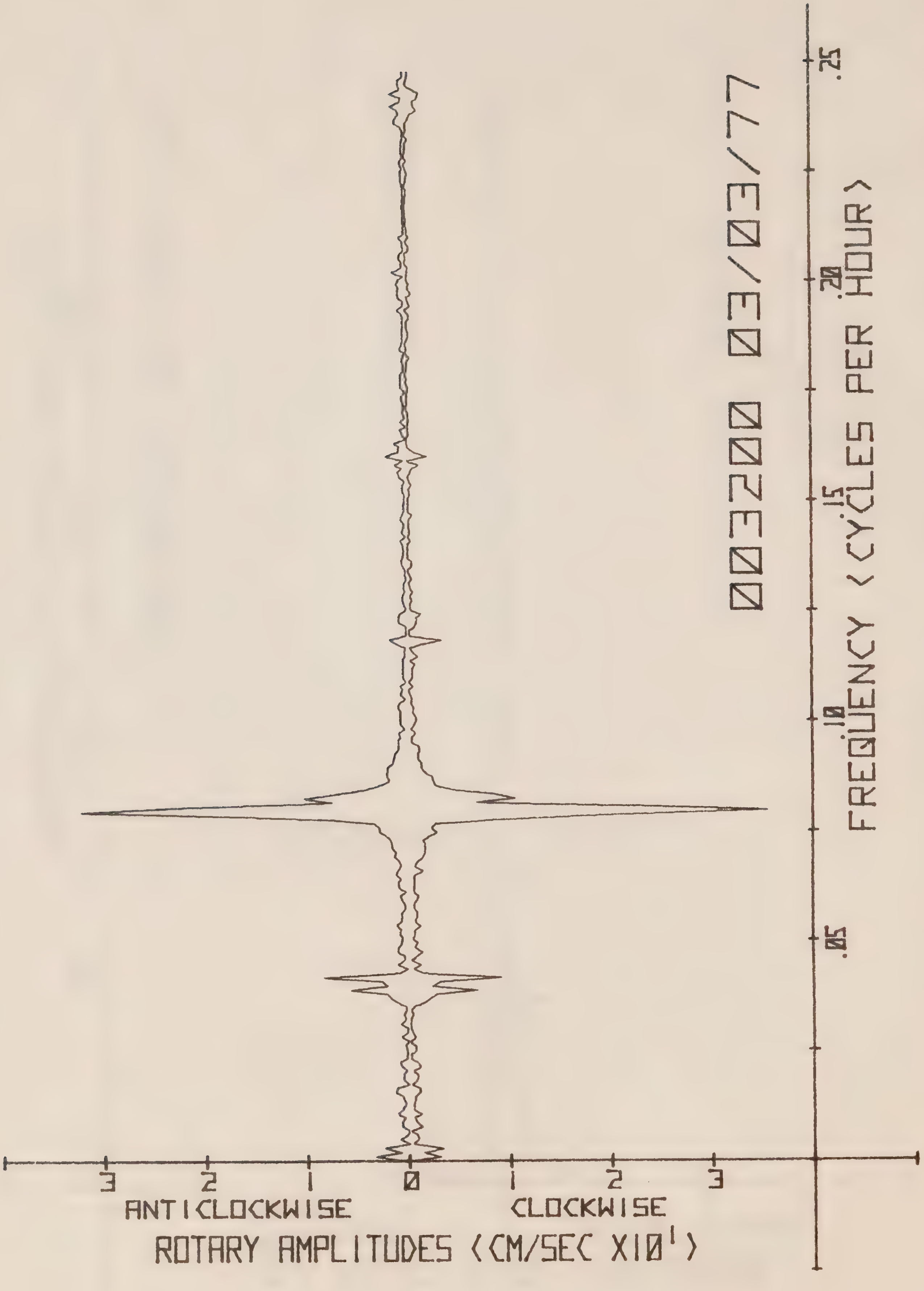
All Others Aanderaa RCM 4

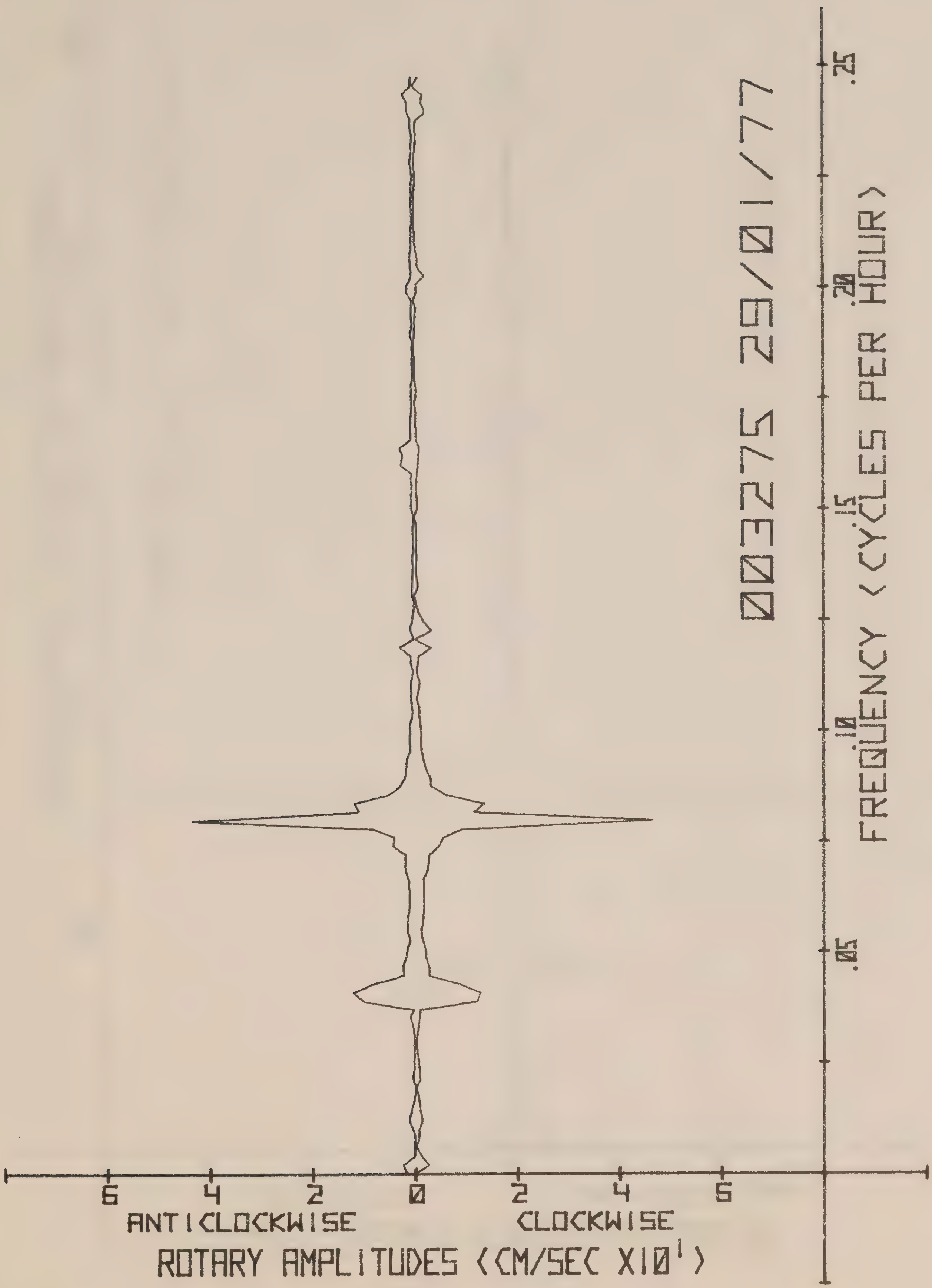
Table 1. Performance of Current Meters



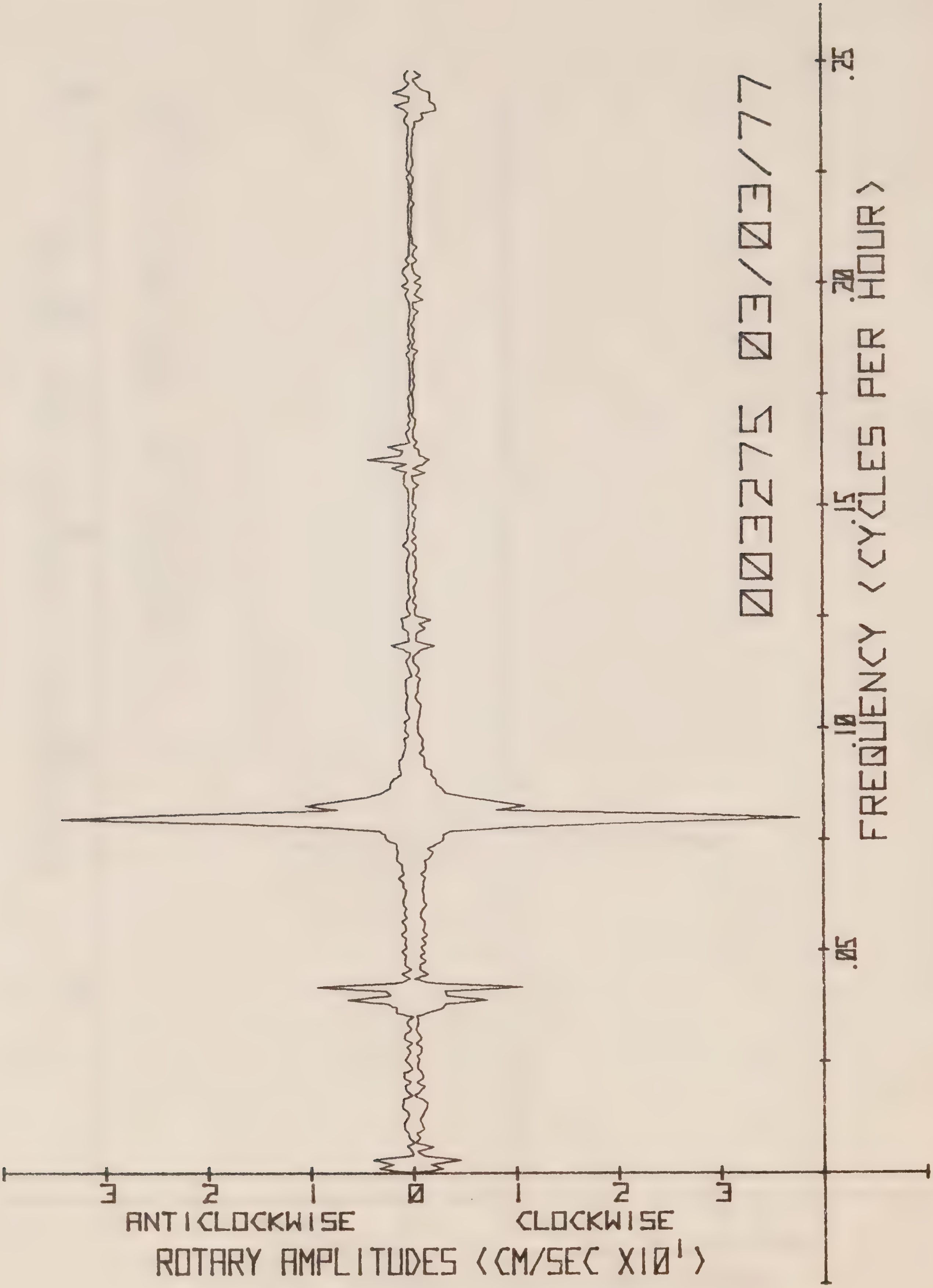
003023 29/01/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
3 2 1 0 1 2 3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10¹)


003023 03/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
3
2
1
0
1
2
3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10¹)

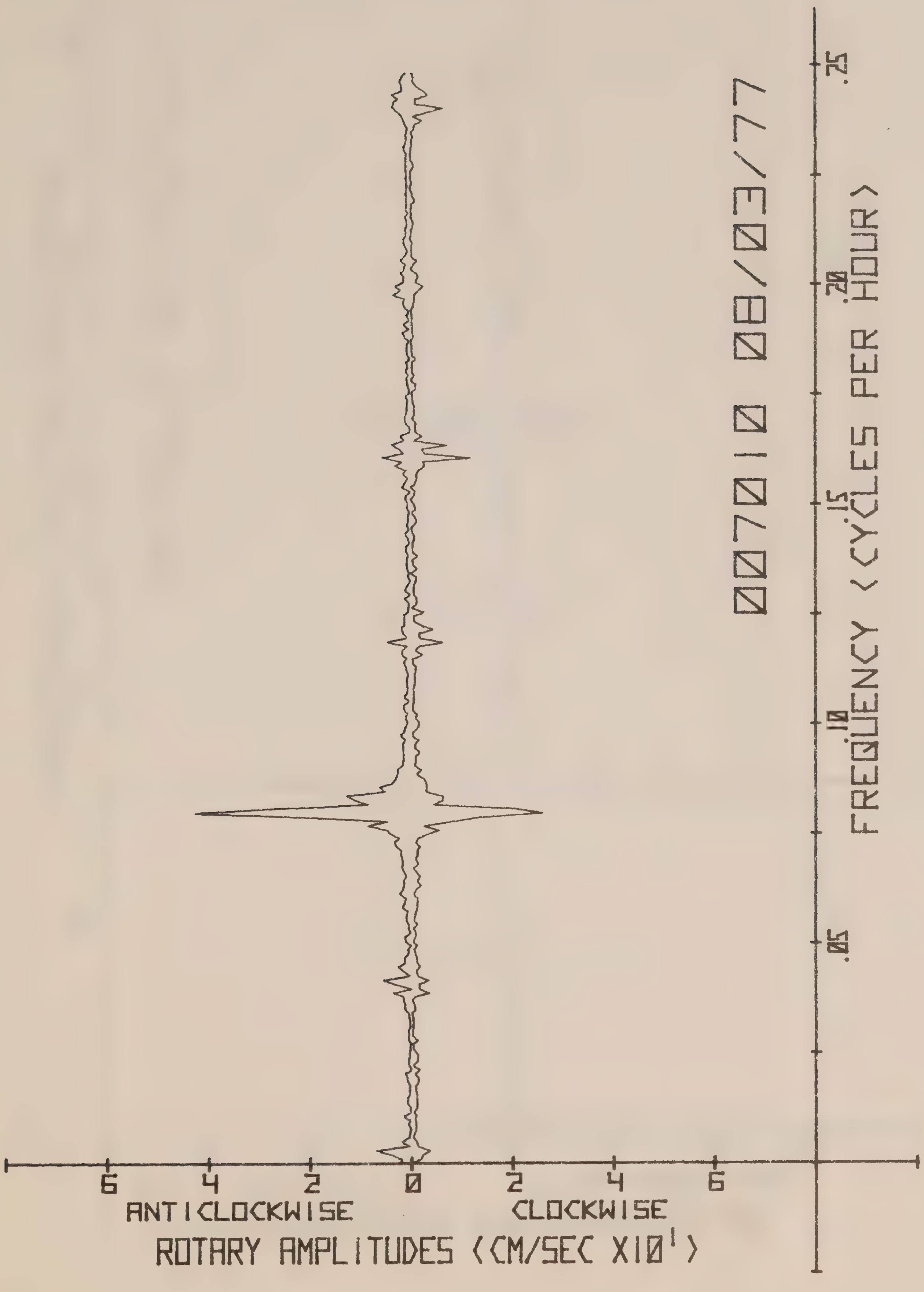

003200 03/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
3
2
1
0
1
2
3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10¹)

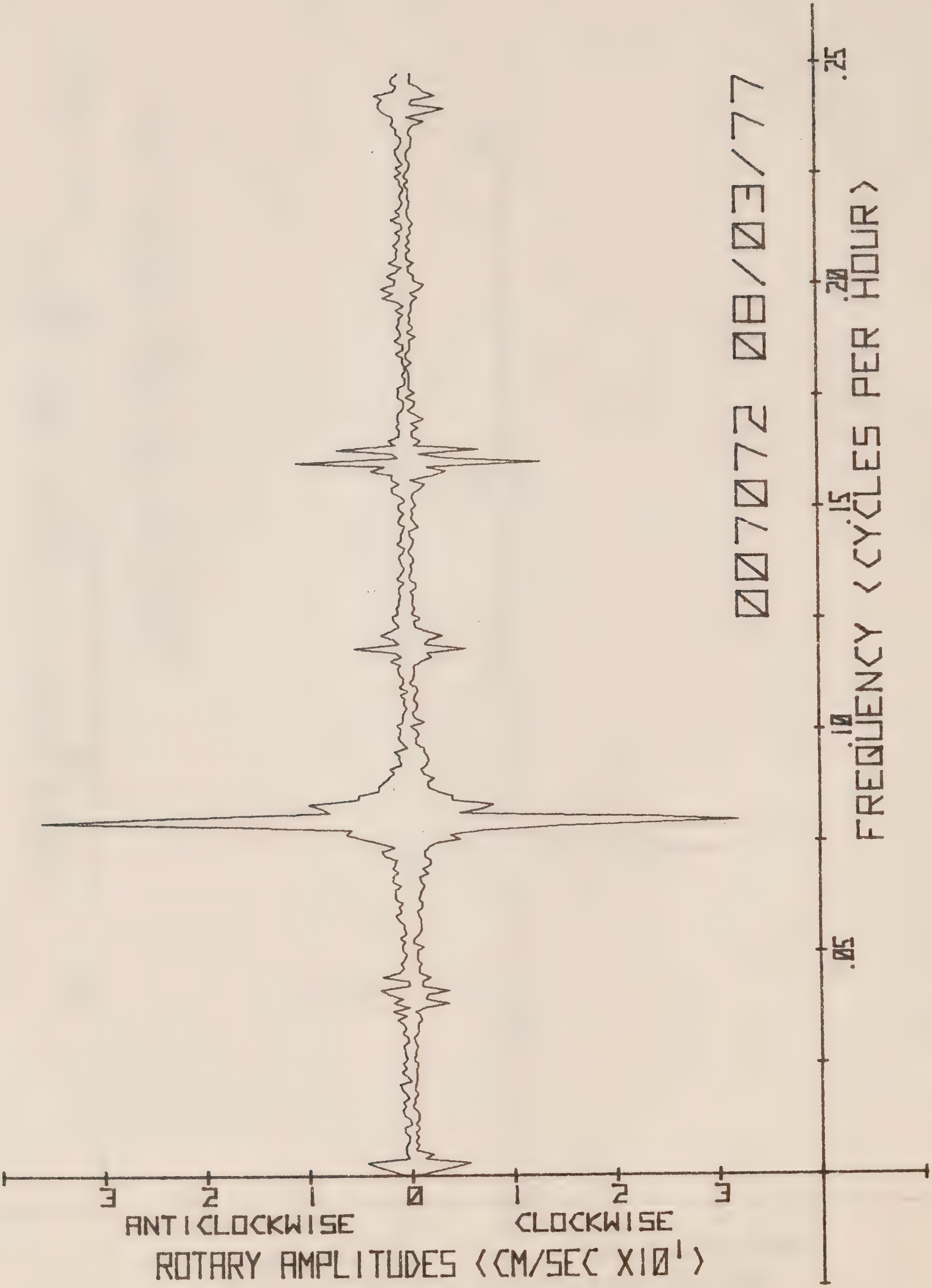


003275 29/01/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
6
4
2
0
2
4
6
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10$^1$)

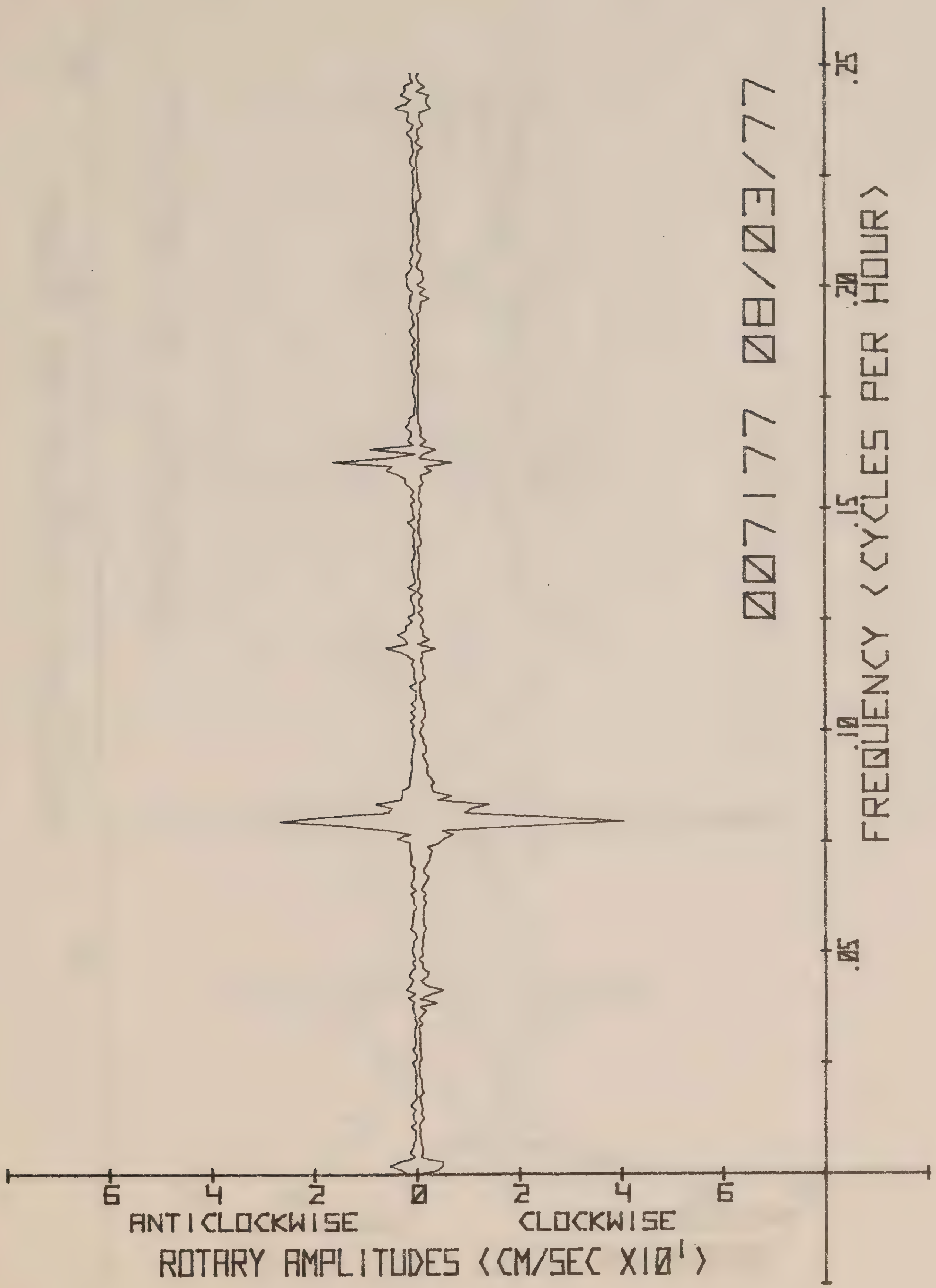


003275 03/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
3 2 1 0 1 2 3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10^1)

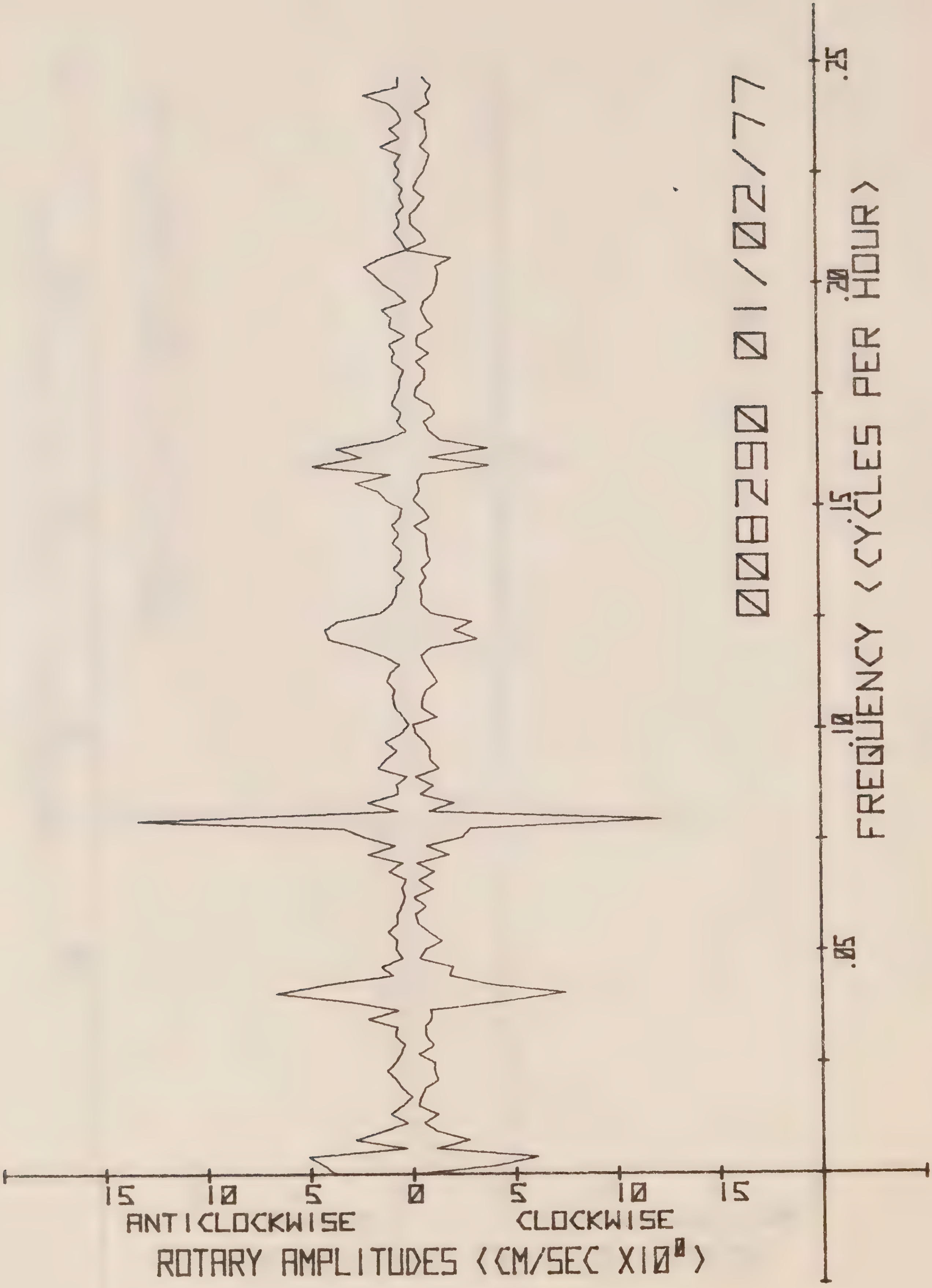

007010 08/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
ROTARY AMPLITUDES (CM/SEC X10¹)
ANTICLOCKWISE
CLOCKWISE
6
4
2
0
2
4
6

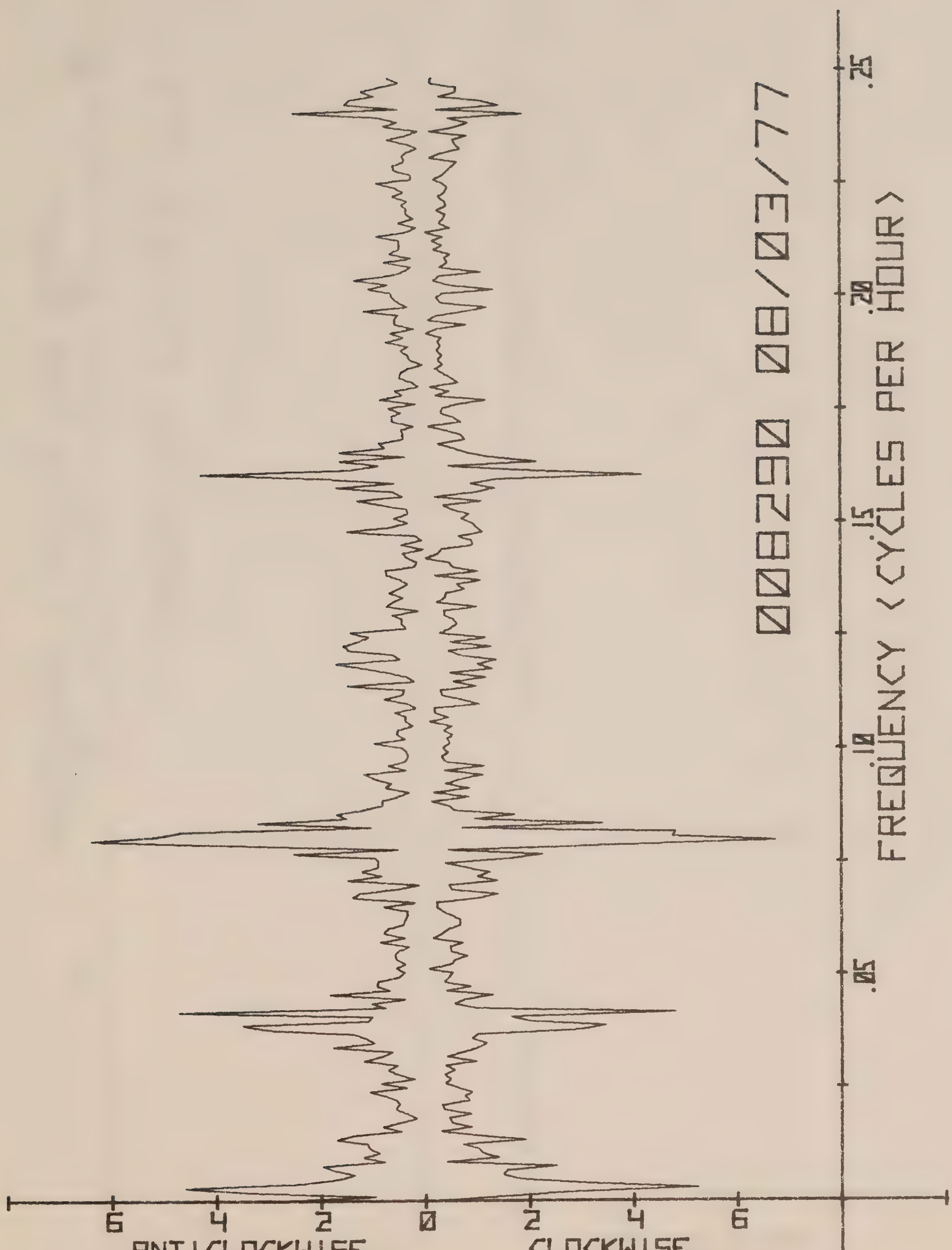


007072 0B/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
3
2
1
0
1
2
3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10¹)

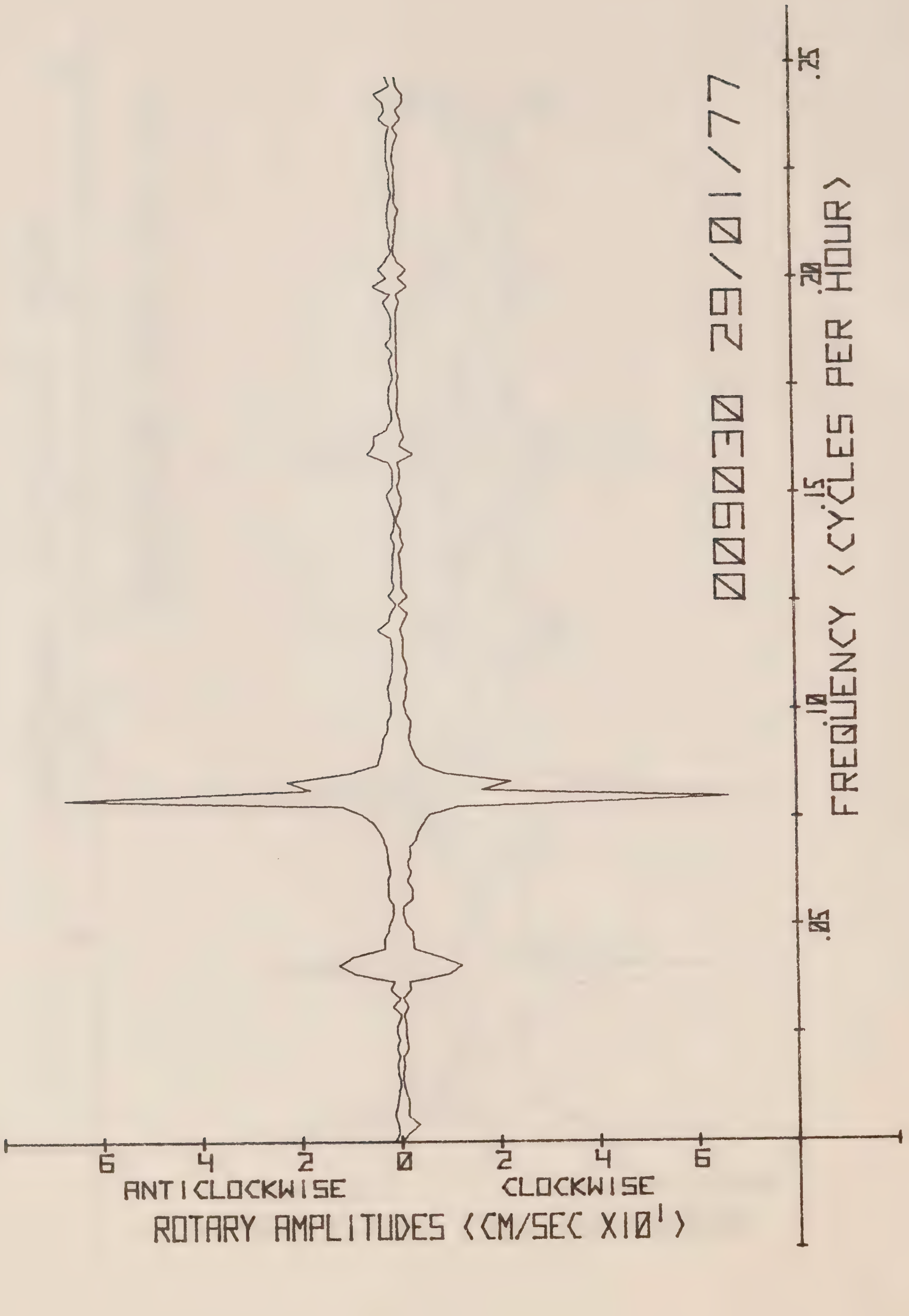


007177 08/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
6
4
2
0
2
4
6
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10$^{1}$)

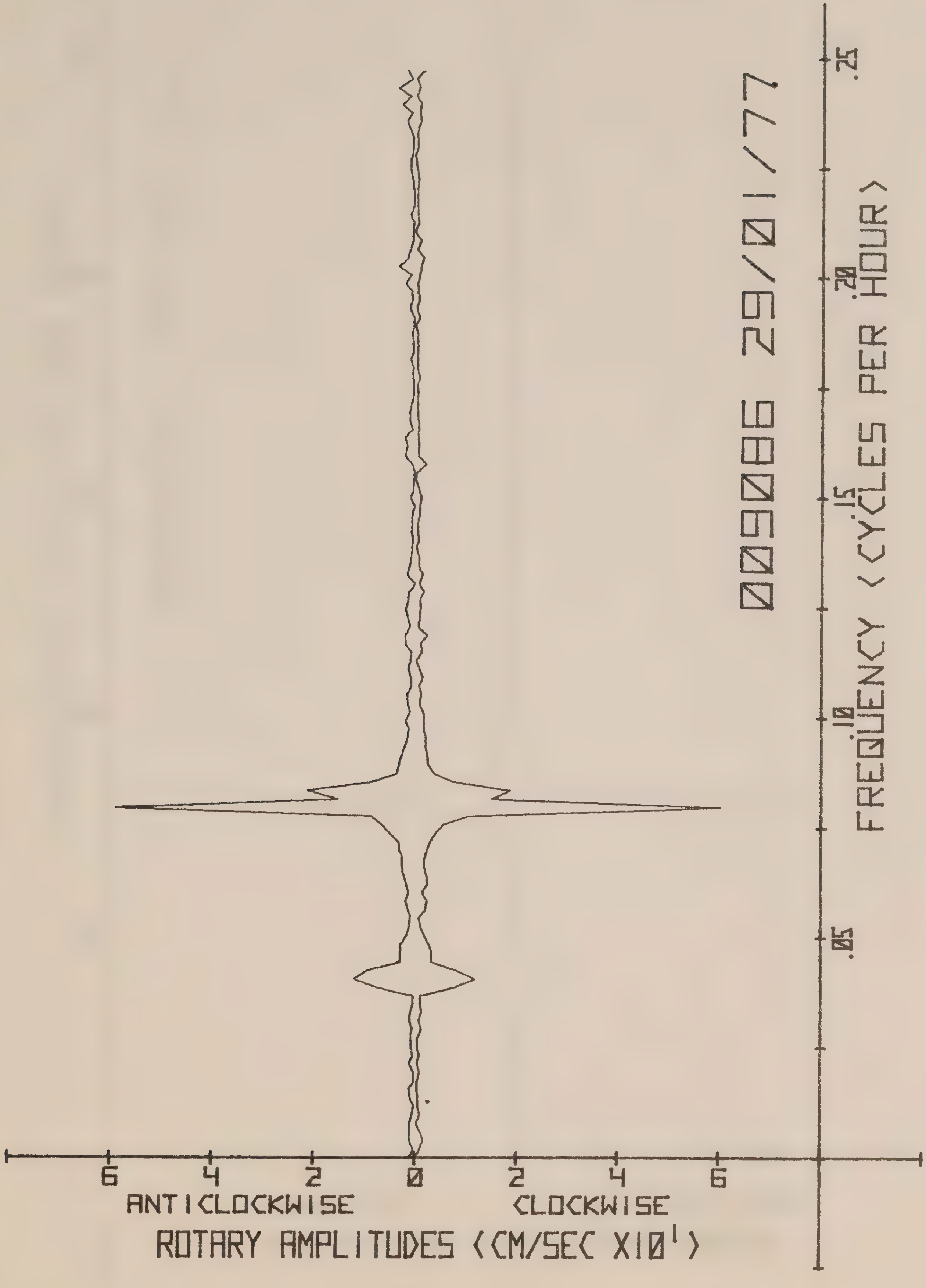

008290 01/02/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
15 10 5 0 5 10 15
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10⁰)



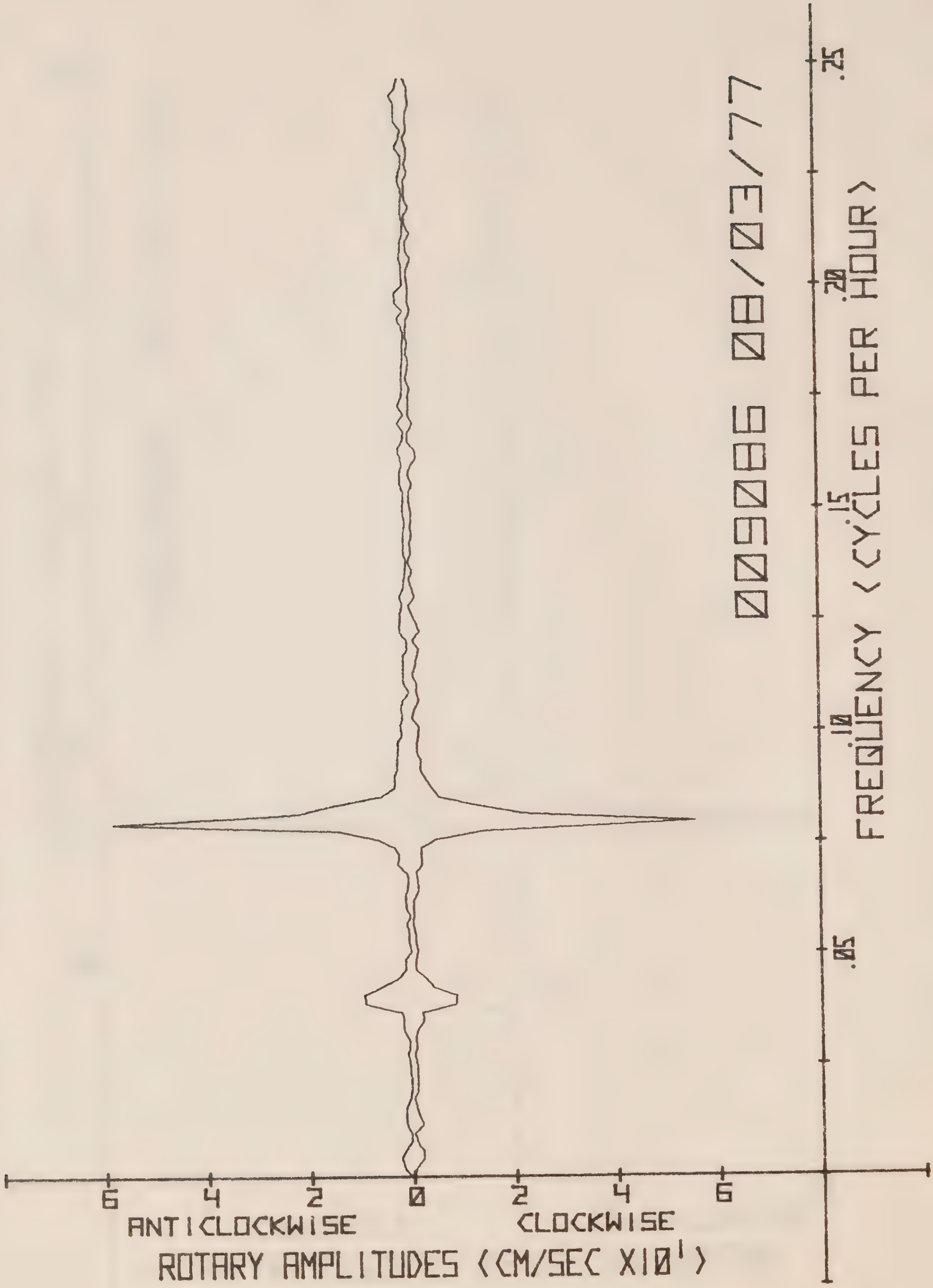
008290 08/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
6 4 2 0 2 4 6
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10$^0$)

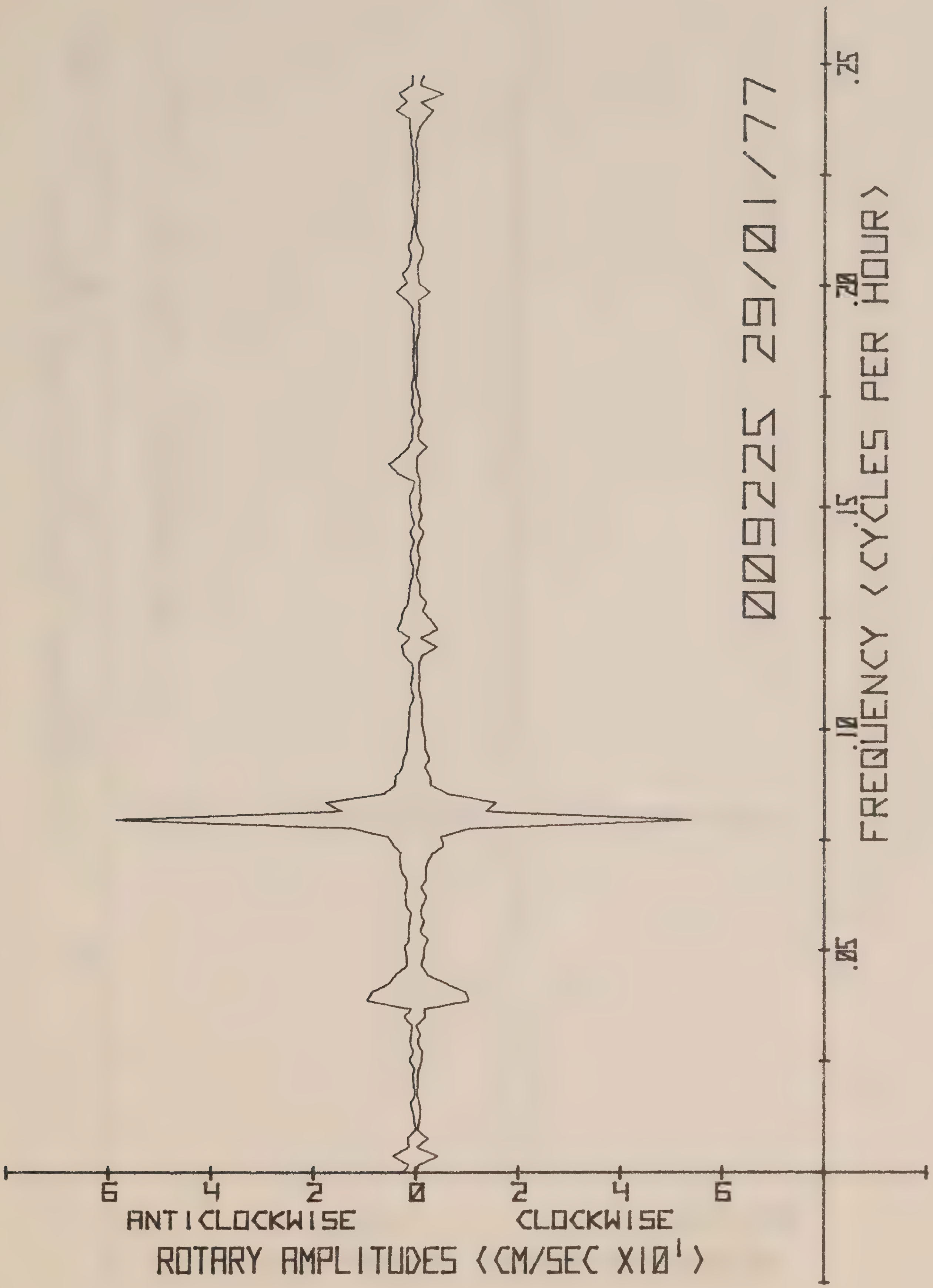


009030 29/01/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
6 4 2 0 2 4 6
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10¹)



009086 29/01/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
6
4
2
0
2
4
6
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10¹)


009086 08/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
6
4
2
0
2
4
6
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10¹)


009225 29/01/77
FREQUENCY (CYCLES PER HOUR)
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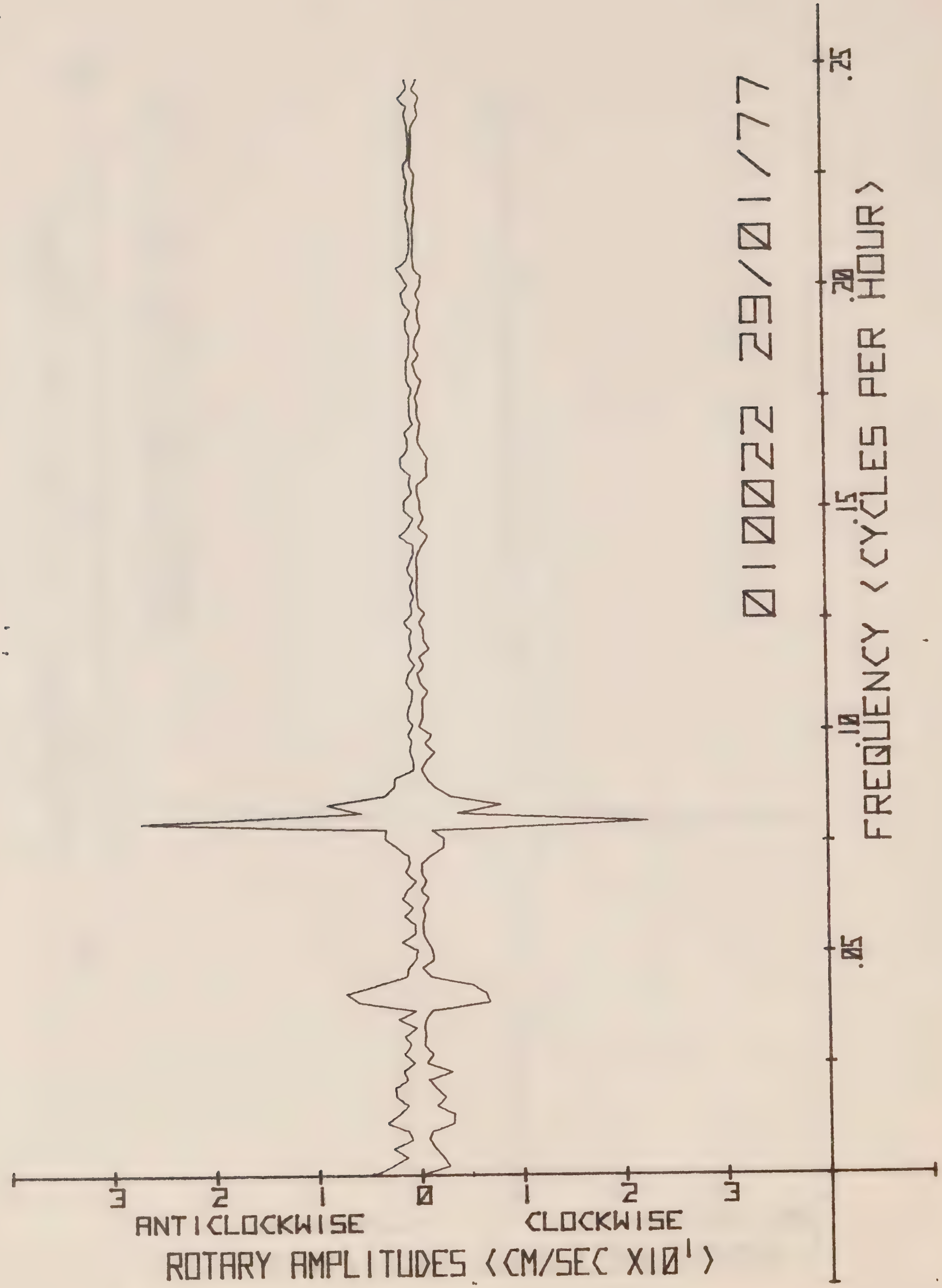
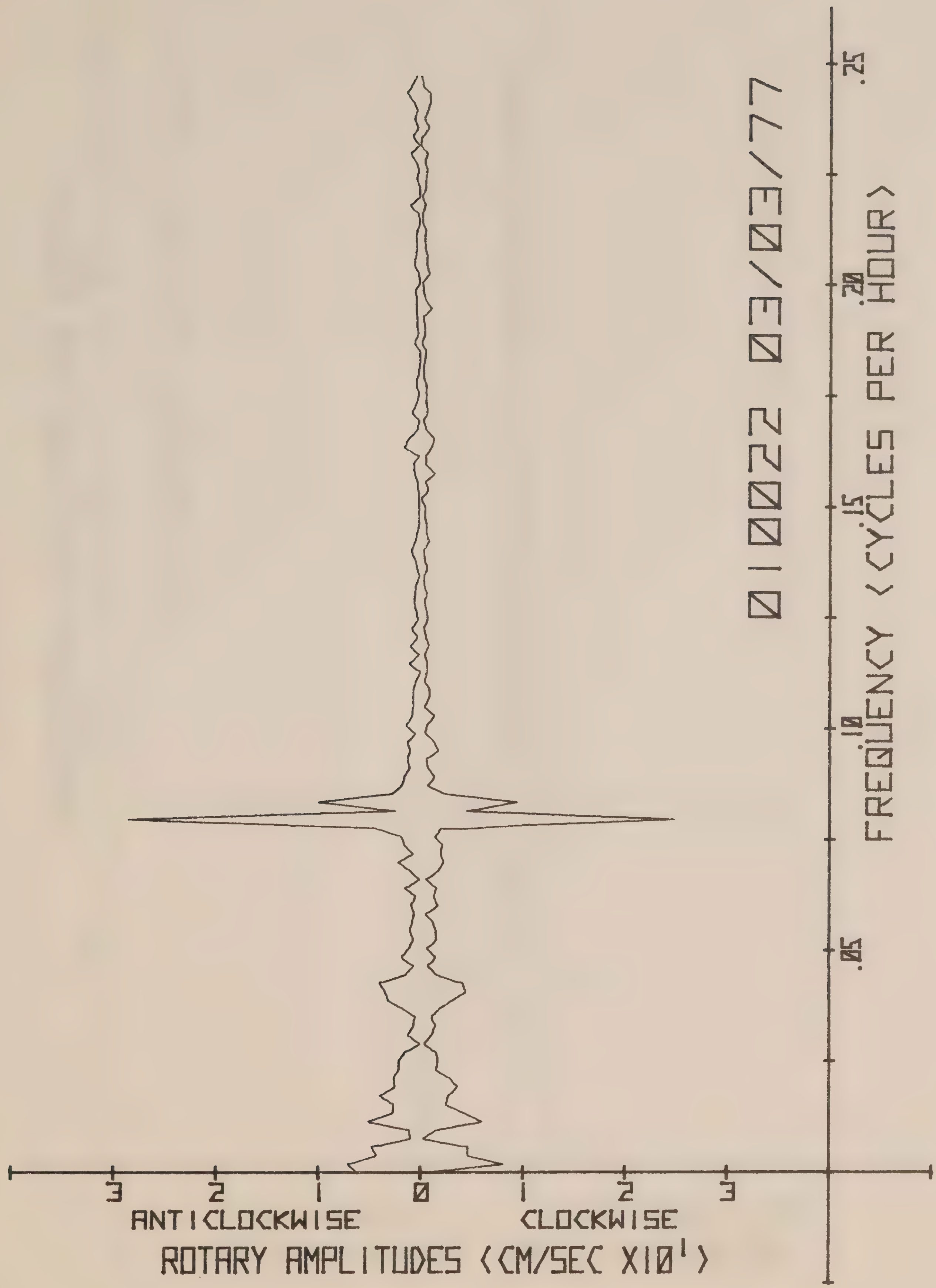
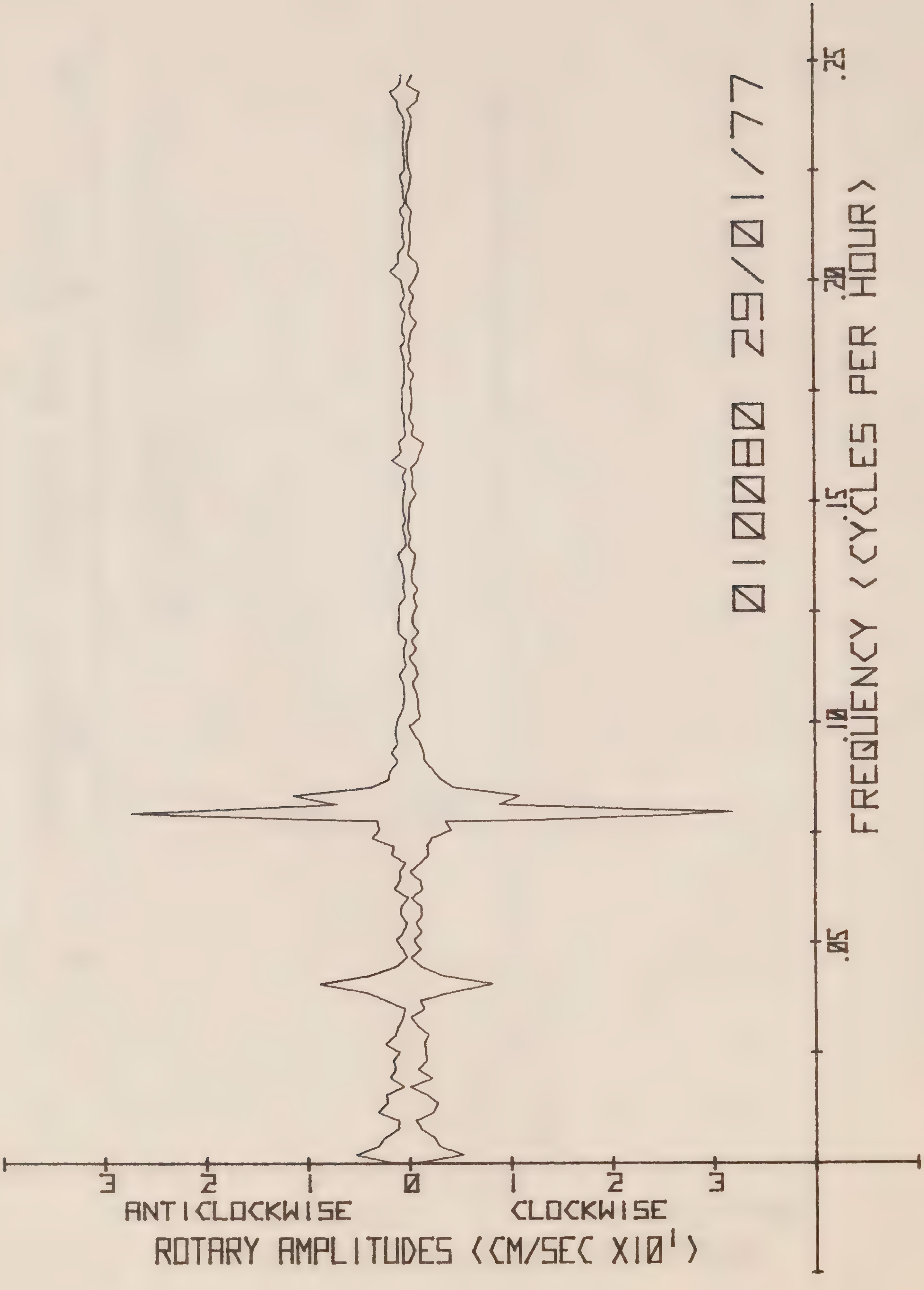
.10
.15
.20
.25
6 4 2 0 2 4 6
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10^1)

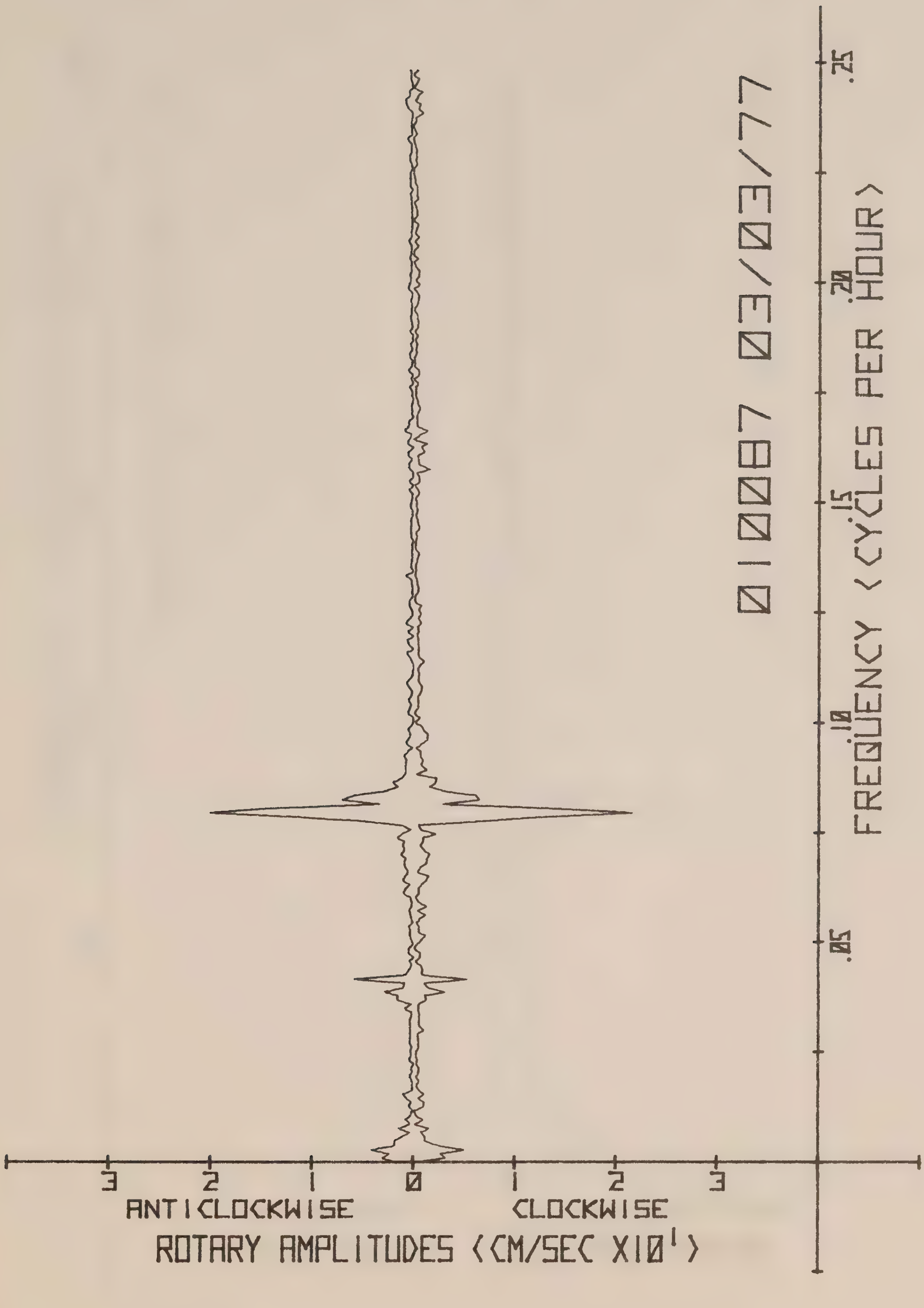


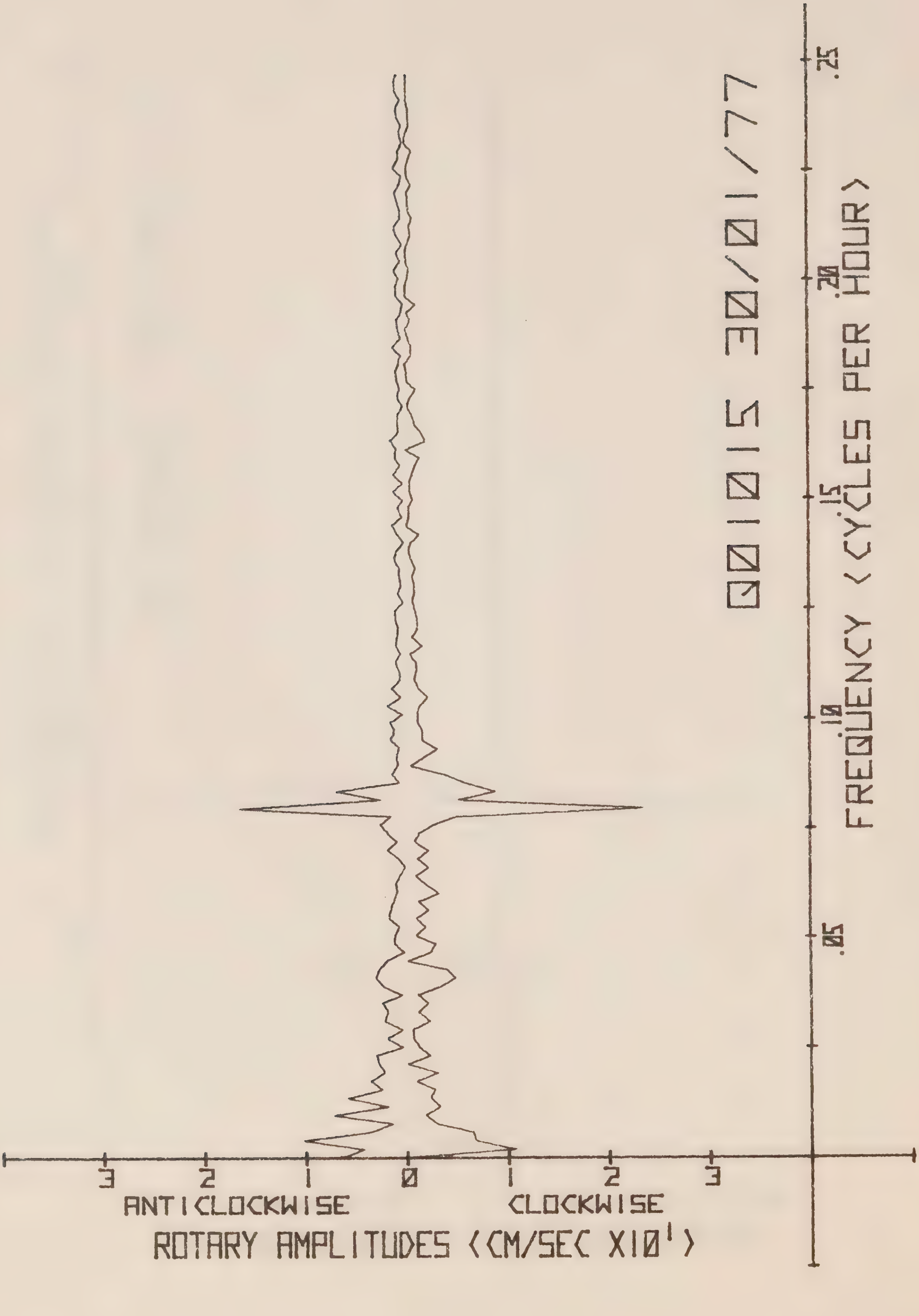
Ø10022 29/Ø1/77
FREQUENCY (CYCLES PER HOUR)
.Ø5
.1Ø
.15
.2Ø
.25
3 2 1 Ø 1 2 3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X1Ø¹)



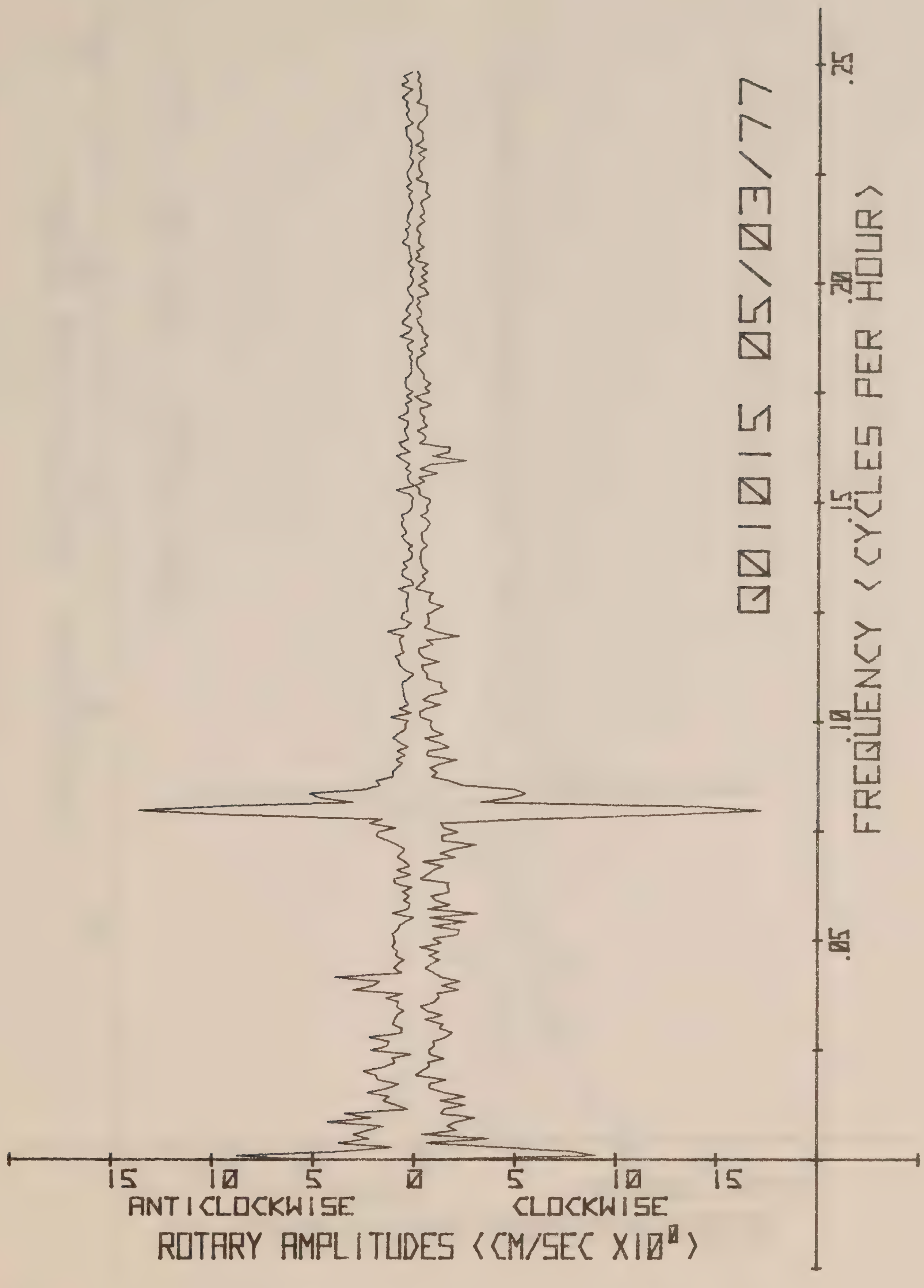
Ø1ØØ22 Ø3/Ø3/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
3 2 1 Ø 1 2 3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X1Ø¹)


010080 29/01/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
3 2 1 0 1 2 3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10¹)

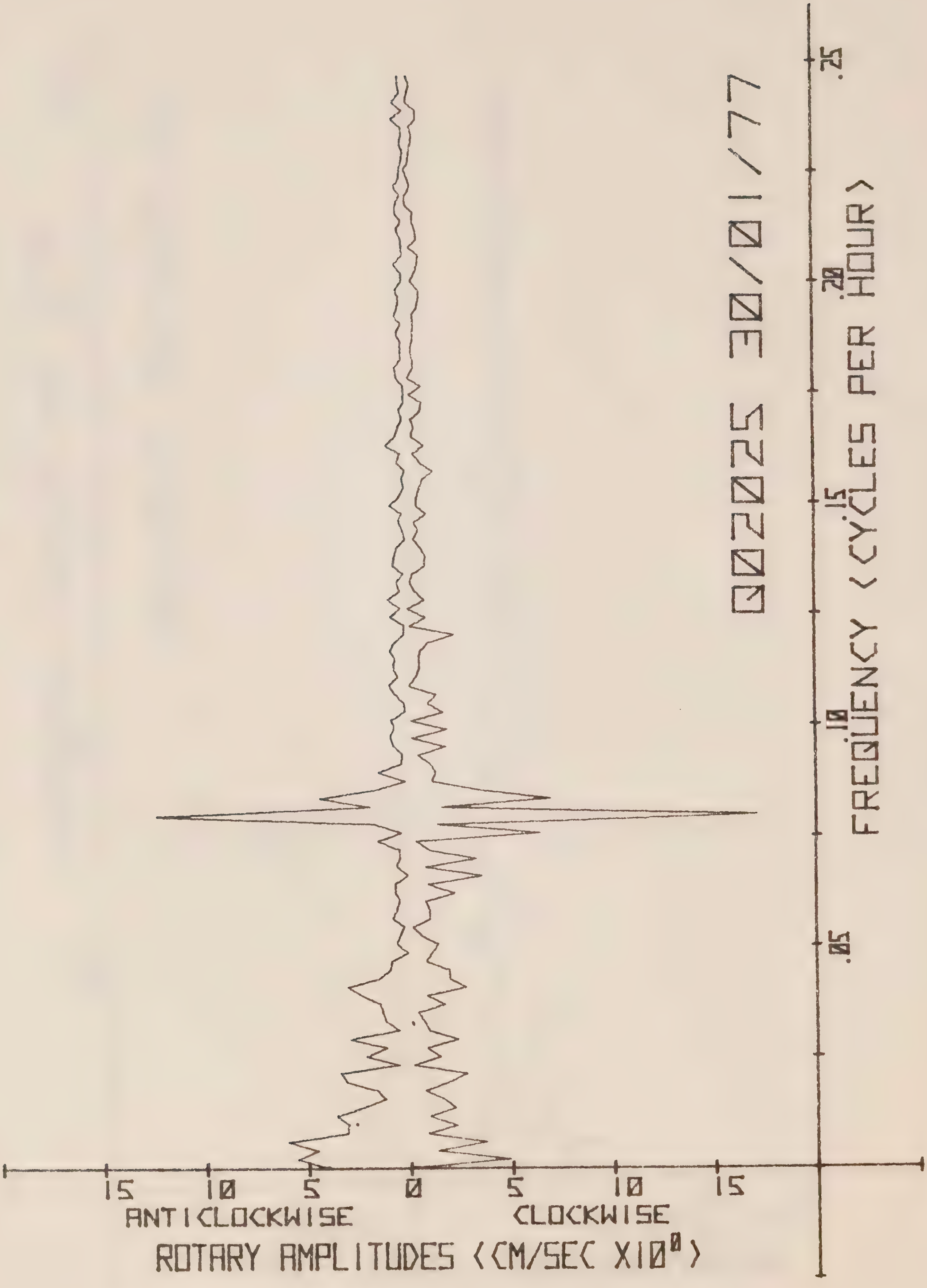

010087 03/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
3 2 1 0 1 2 3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10$^{1}$)



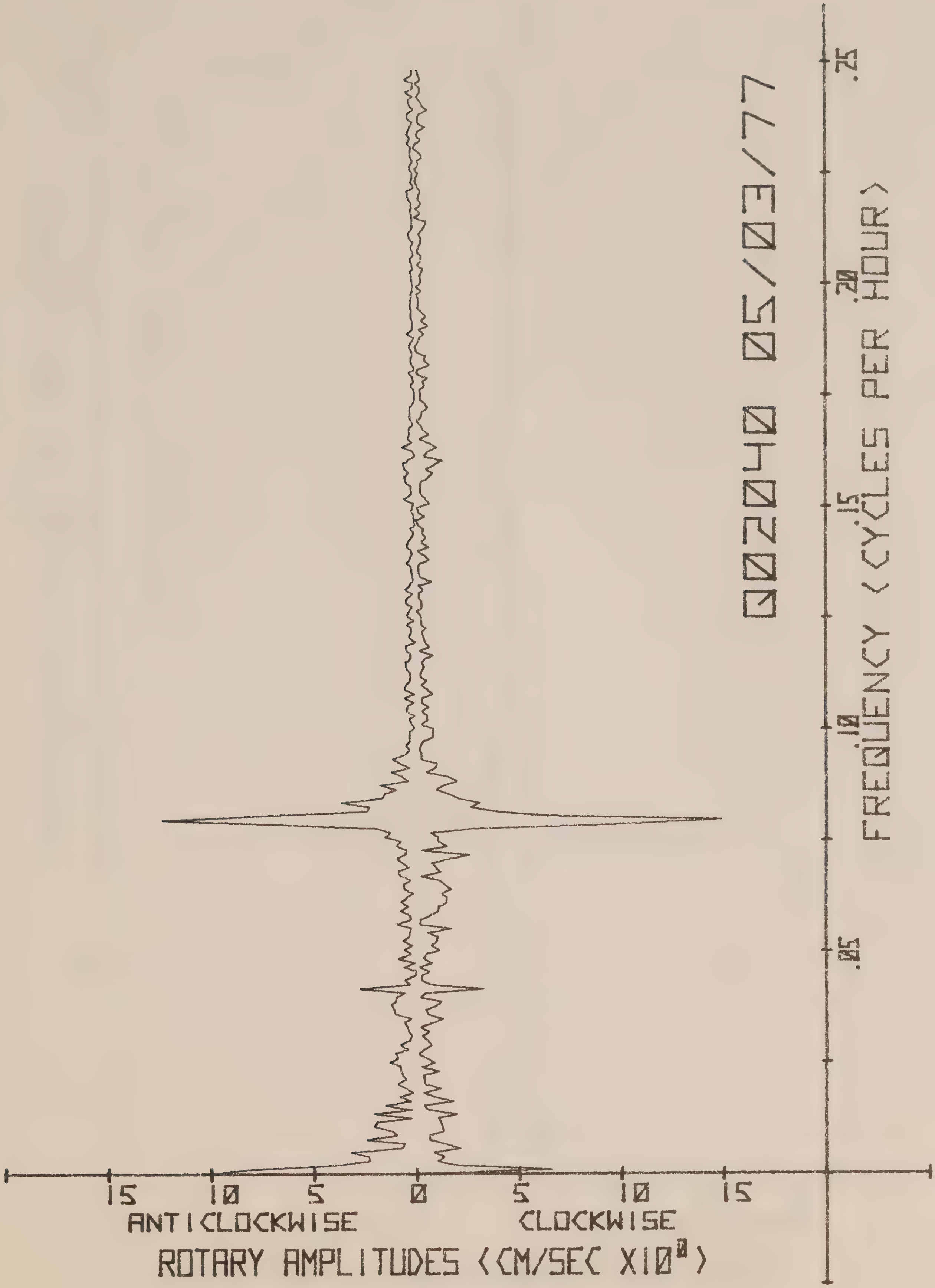
QØ1Ø15 3Ø/Ø3/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
3
2
1
Ø
1
2
3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X1Ø¹)

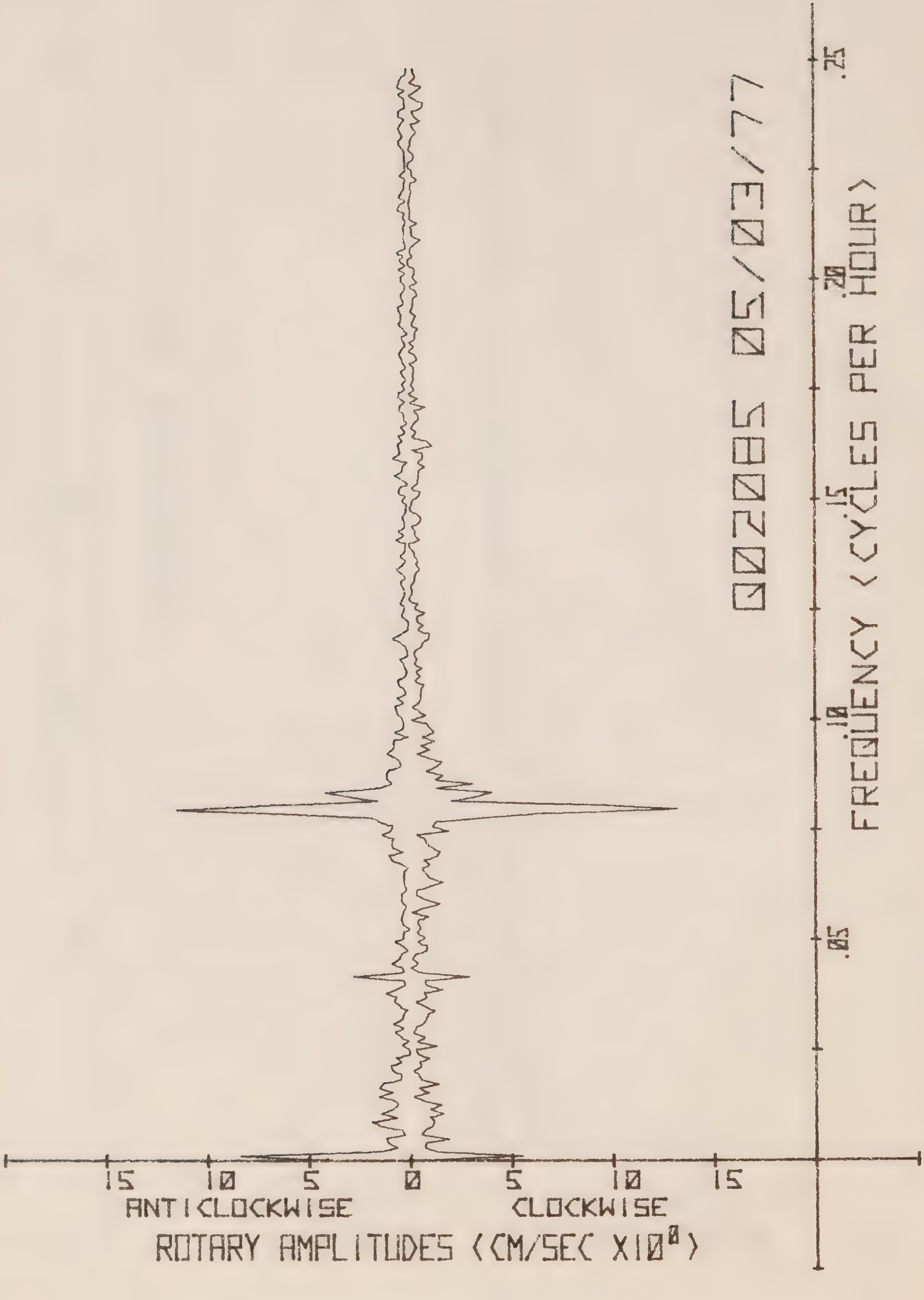


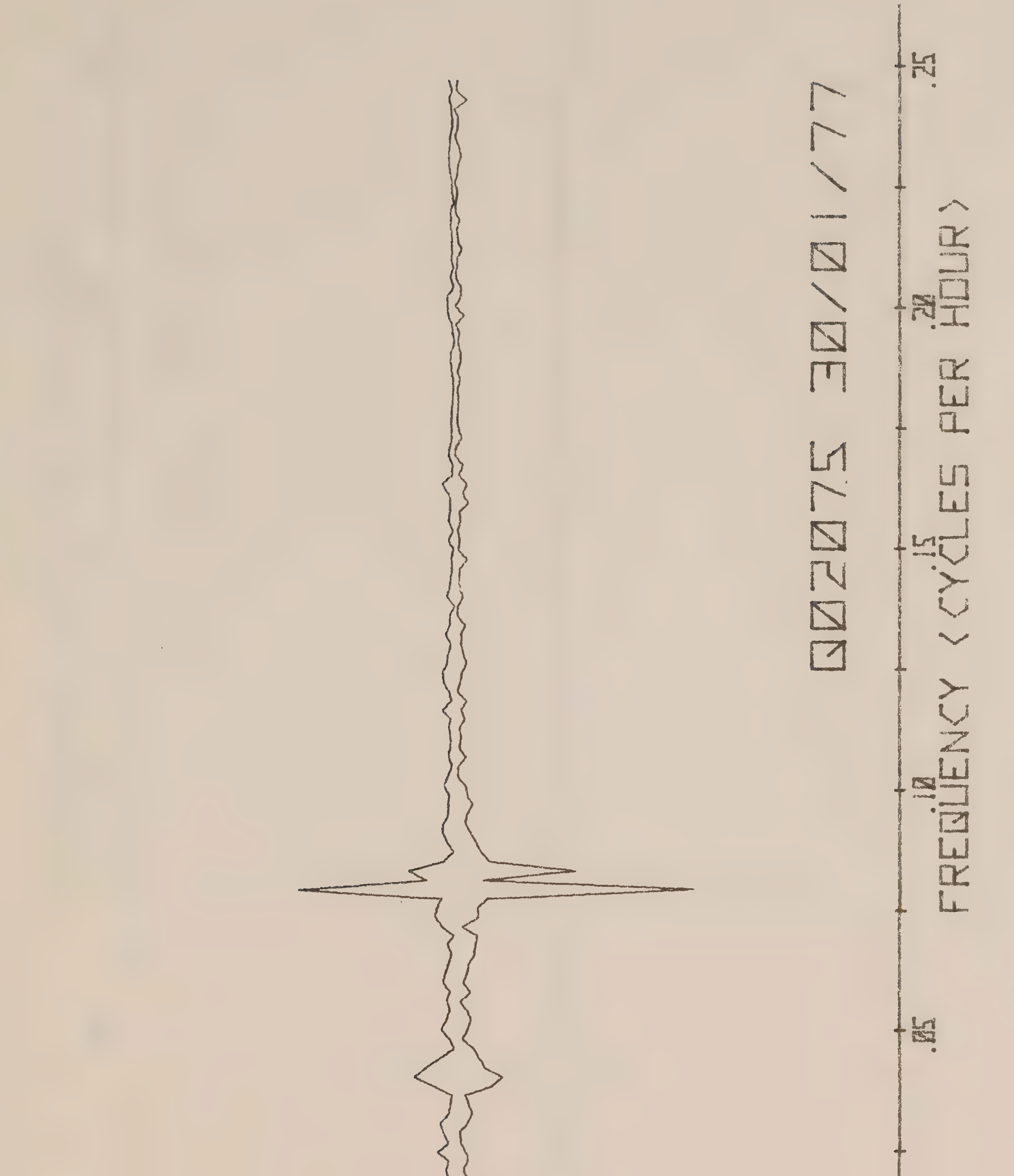
001015 05/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
15 10 5 0 5 10 15
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10⁰)

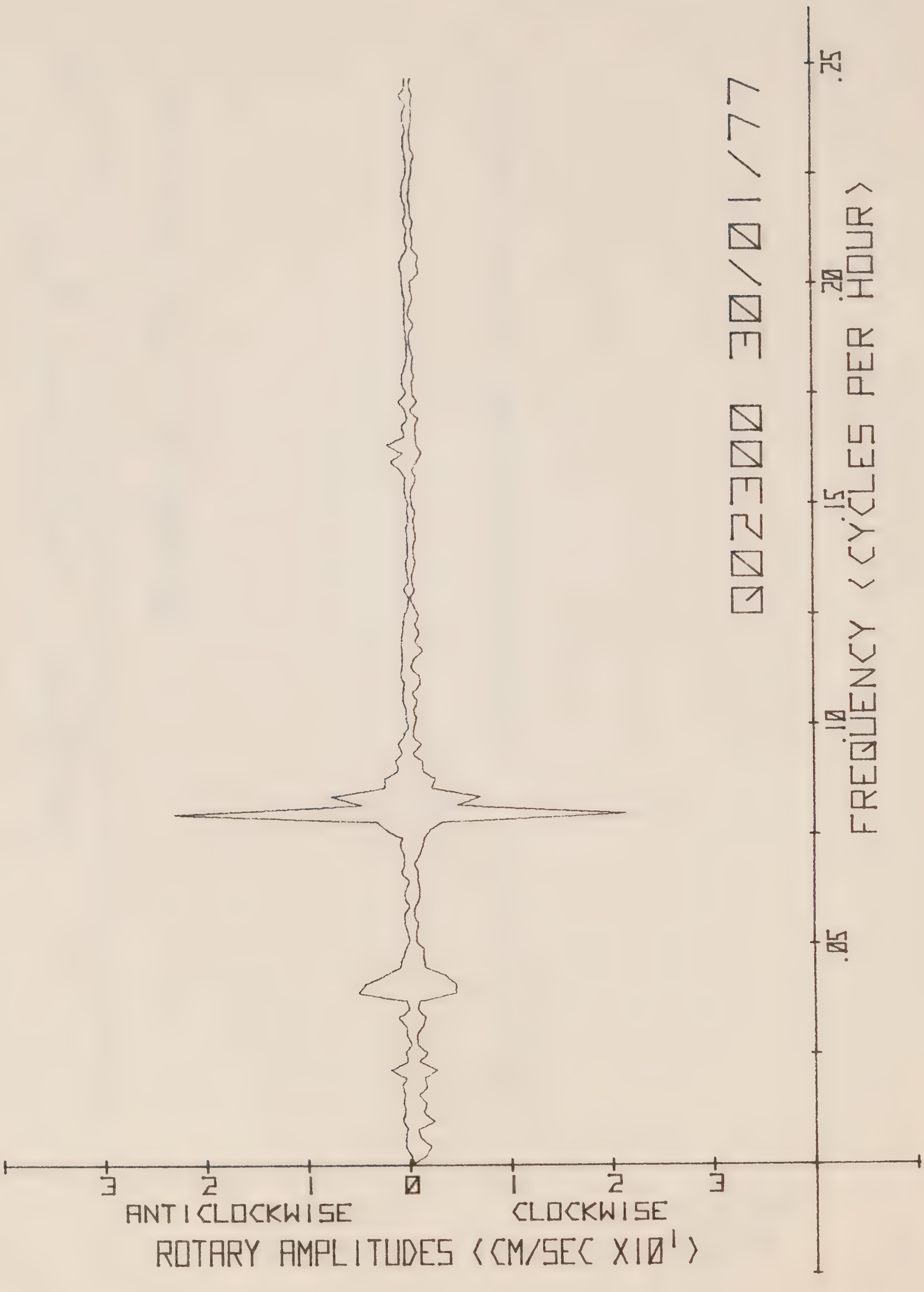


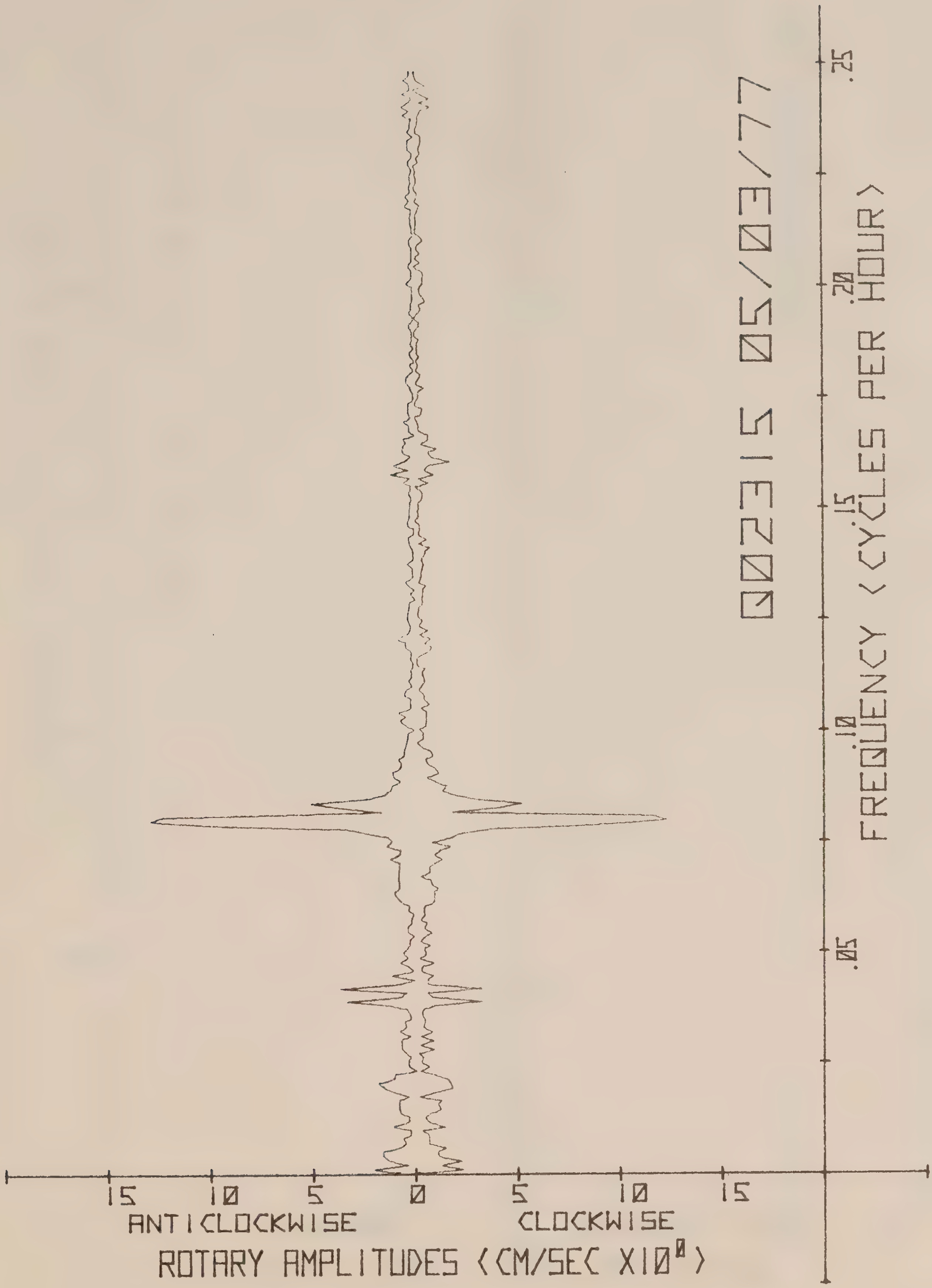
Q02025 30/01/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
15 10 5 0 5 10 15
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10⁰)

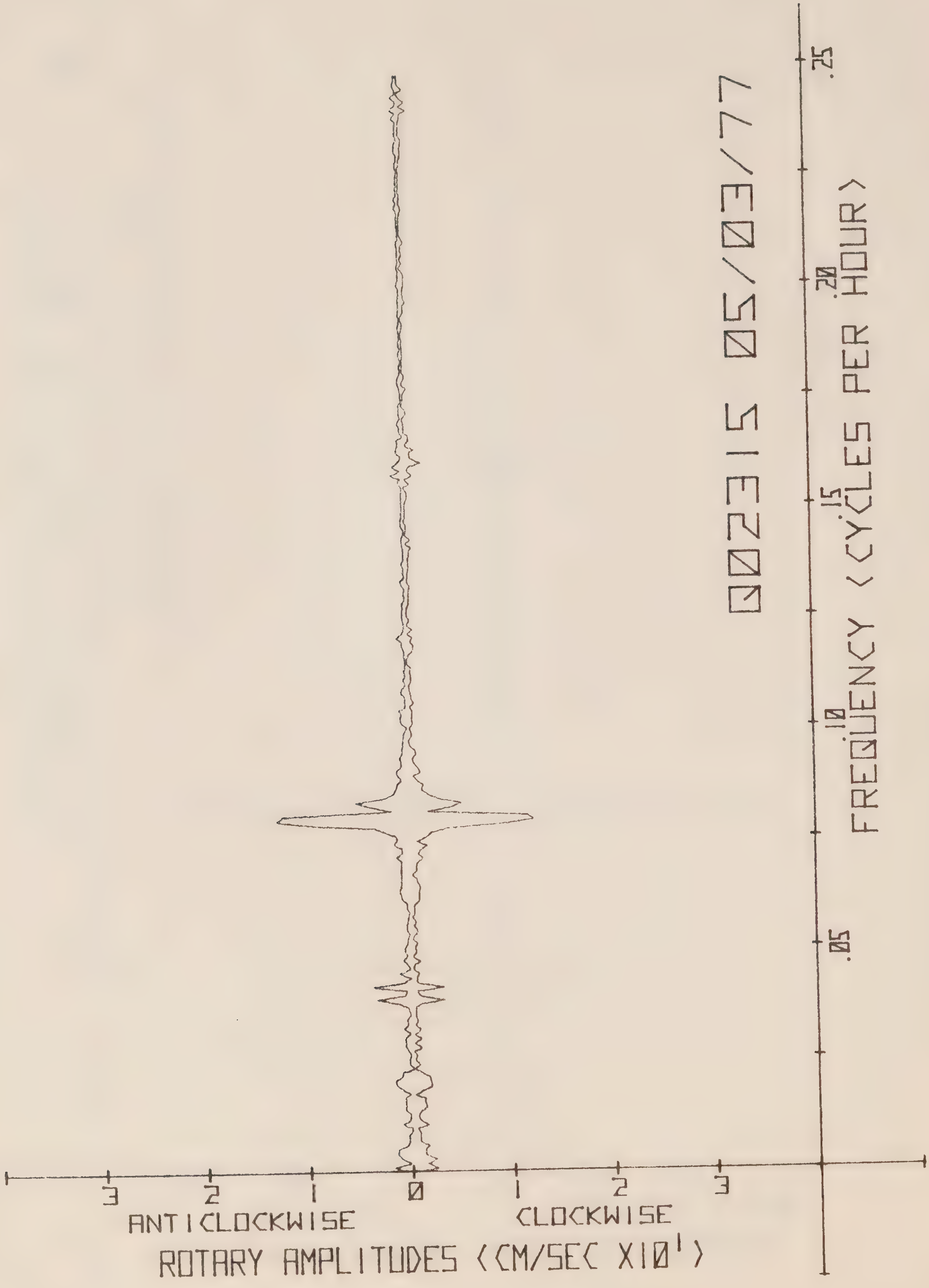

Q02040 05/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
15
10
5
0
5
10
15
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10^0)


002085 05/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
15 10 5 0 5 10 15
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10^0)

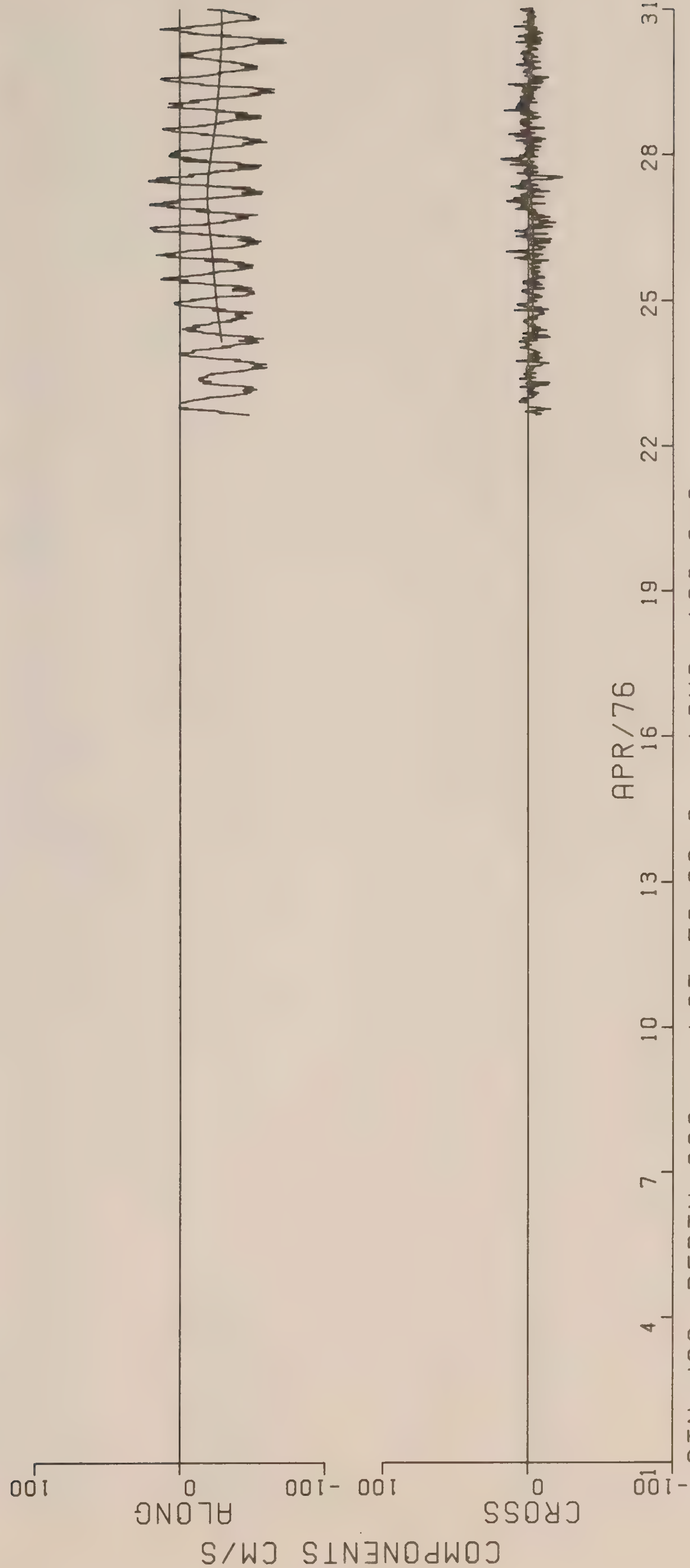

Q02075 30/01/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
3 2 1 0 1 2 3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10¹)

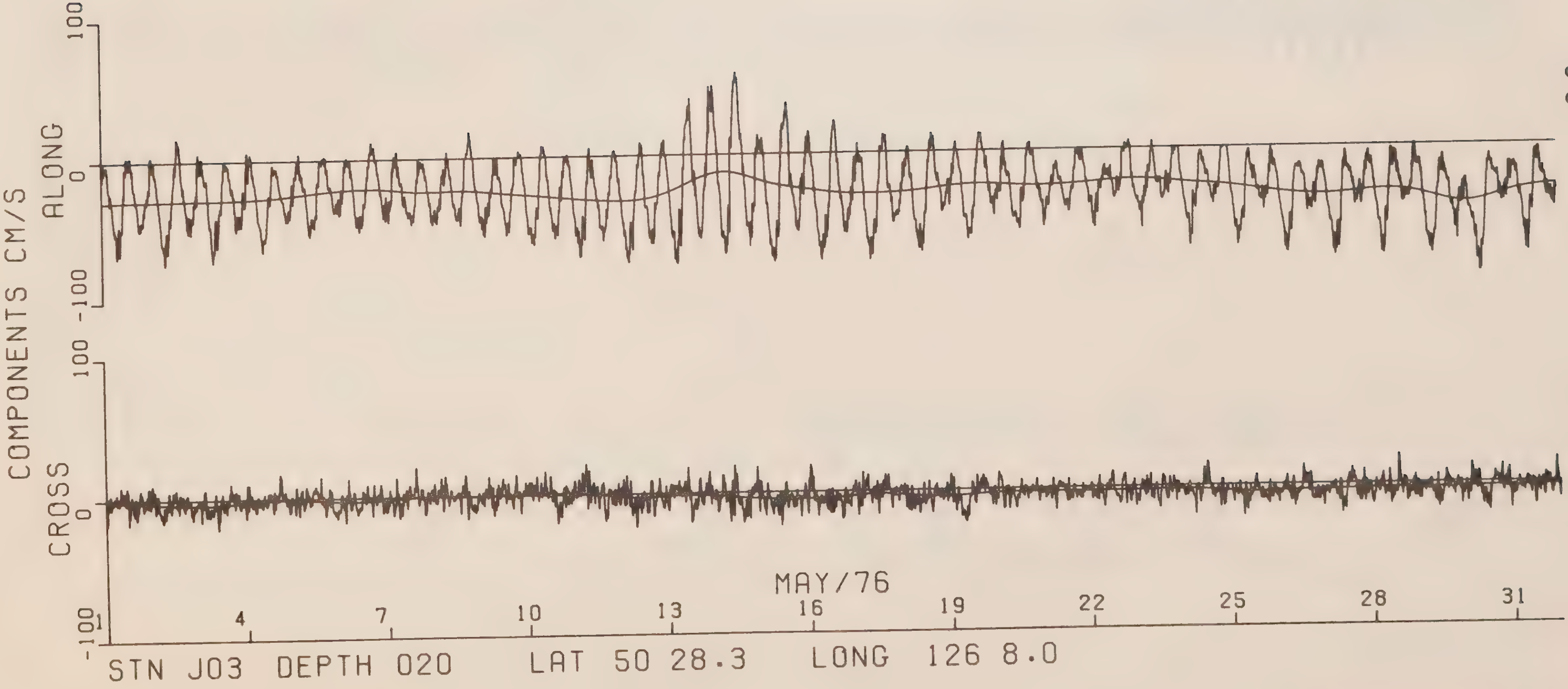

QØ23ØØ 3Ø/Ø1/77
.25
.2Ø
.15
.1Ø
.Ø5
FREQUENCY (CYCLES PER HOUR)
3
2
1
Ø
1
2
3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X1Ø$^{1}$)


002315 05/03/77
FREQUENCY (CYCLES PER HOUR)
.05
.10
.15
.20
.25
15 10 5 0 5 10 15
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10^0)

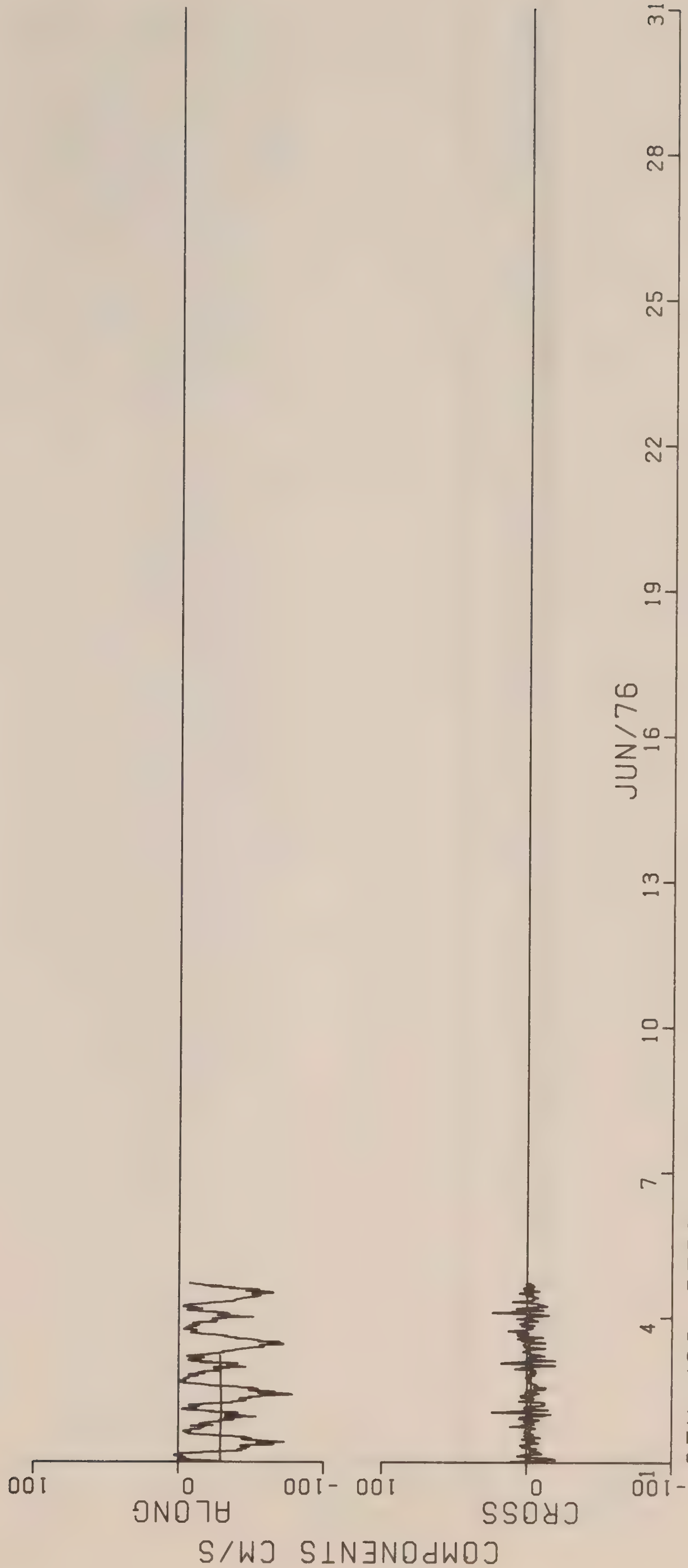


002315 05/03/77
.05
.10
.15
.20
.25
FREQUENCY (CYCLES PER HOUR)
3 2 1 0 1 2 3
ANTICLOCKWISE
CLOCKWISE
ROTARY AMPLITUDES (CM/SEC X10¹)

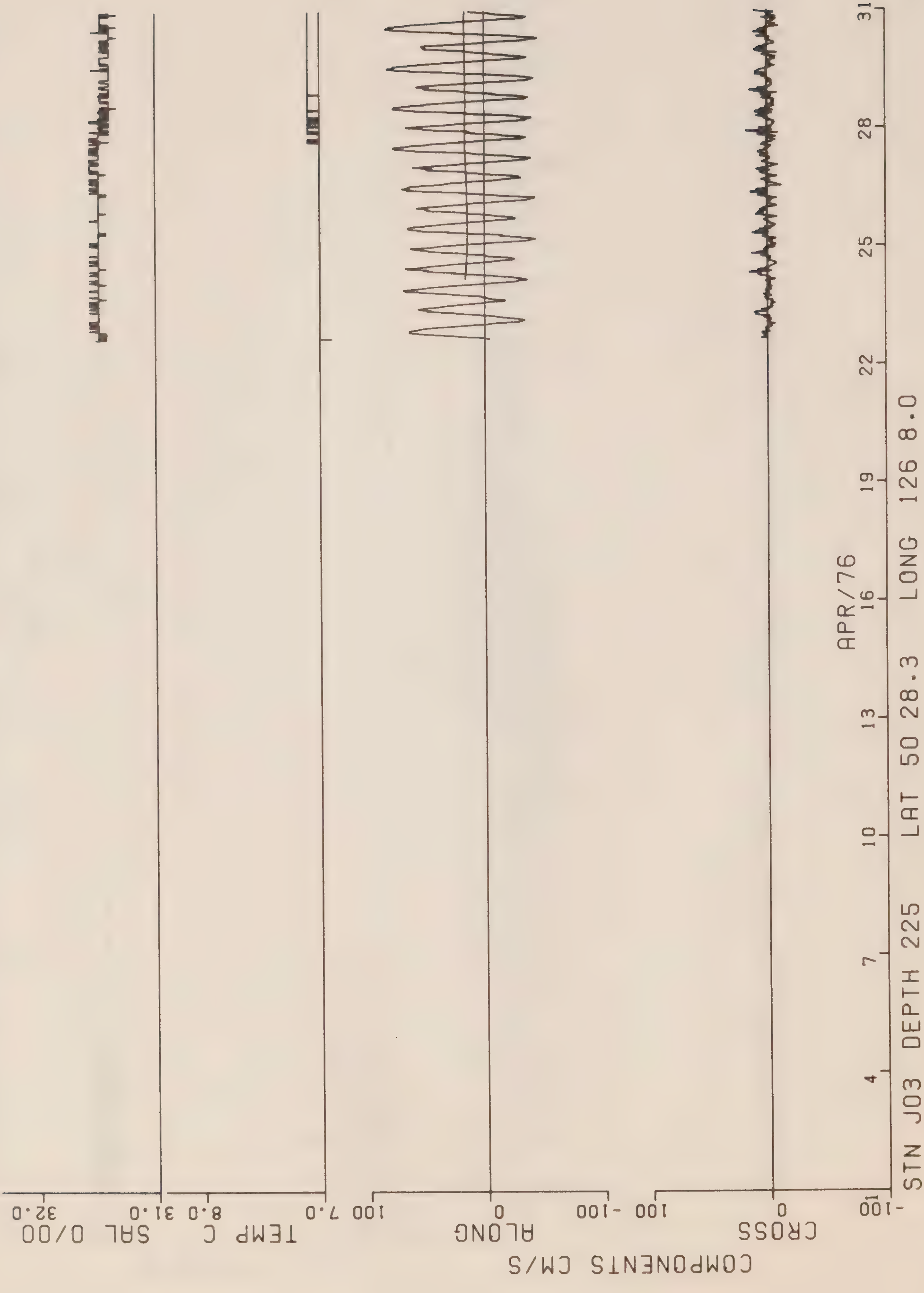

STN J03 DEPTH 020 LAT 50 28.3 LONG 126 8.0
APR/76
4
7
10
13
16
19
22
25
28
31
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100

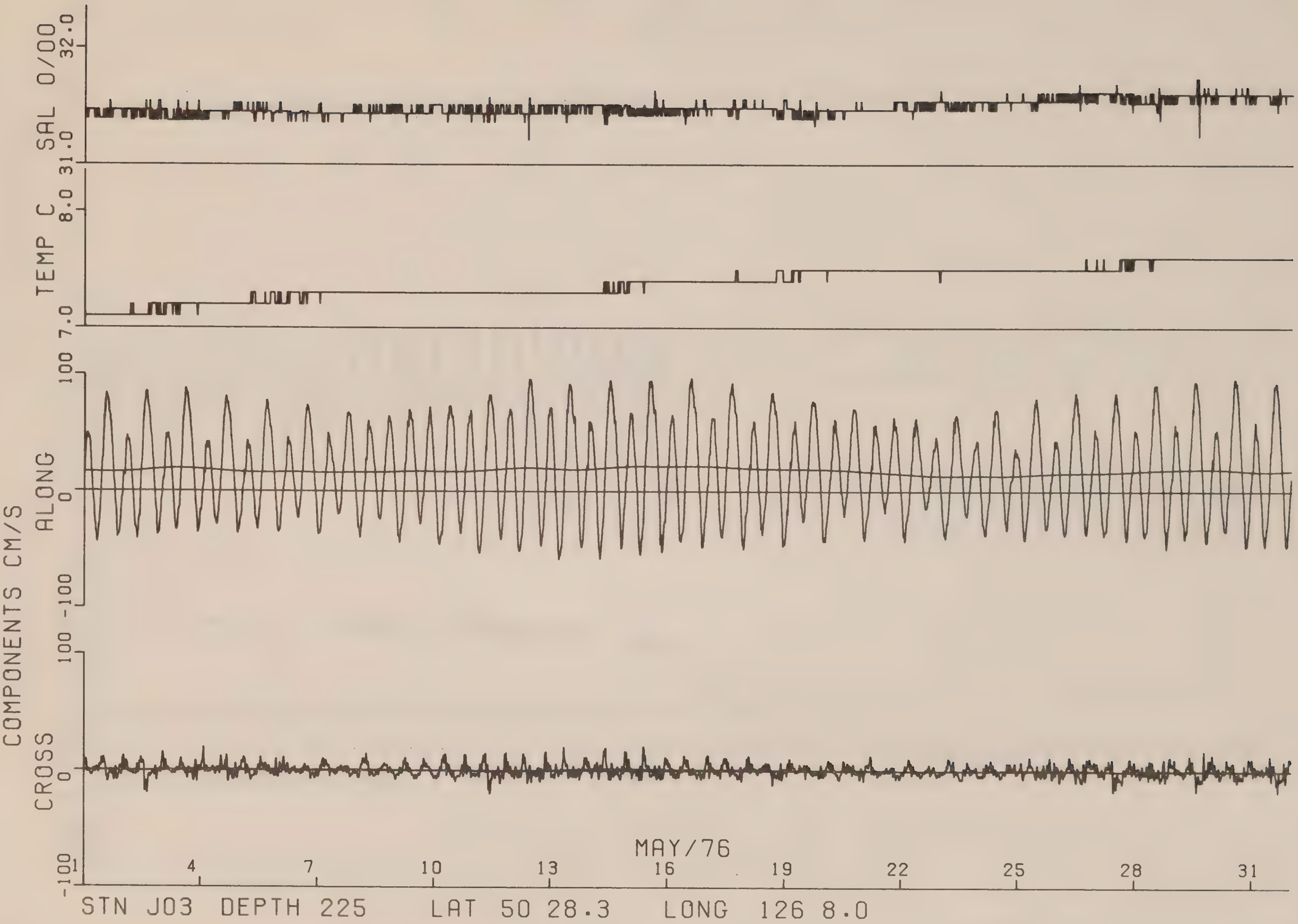


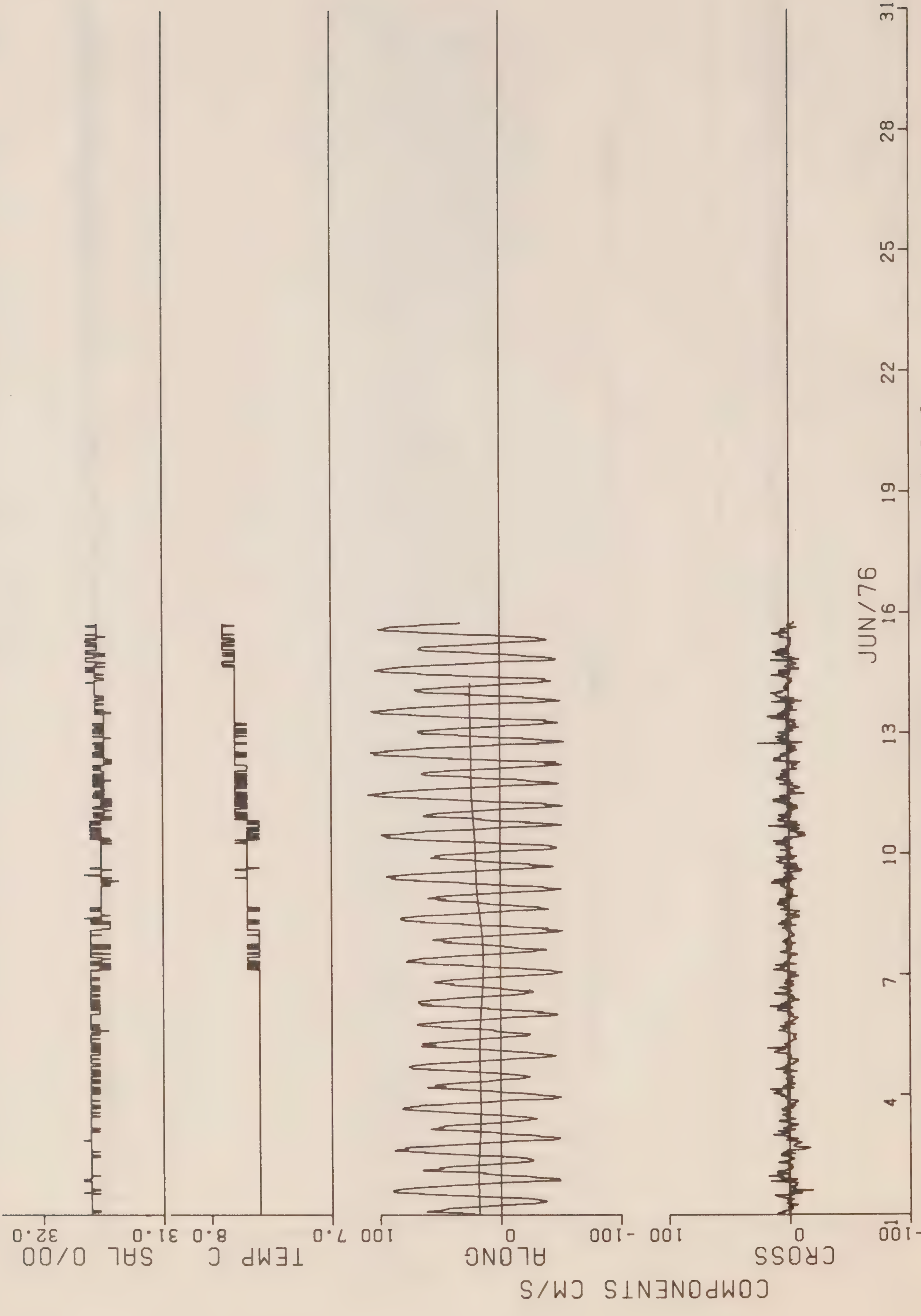
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
MAY/76
1
4
7
10
13
16
19
22
25
28
31
STN J03 DEPTH 020 LAT 50 28.3 LONG 126 8.0



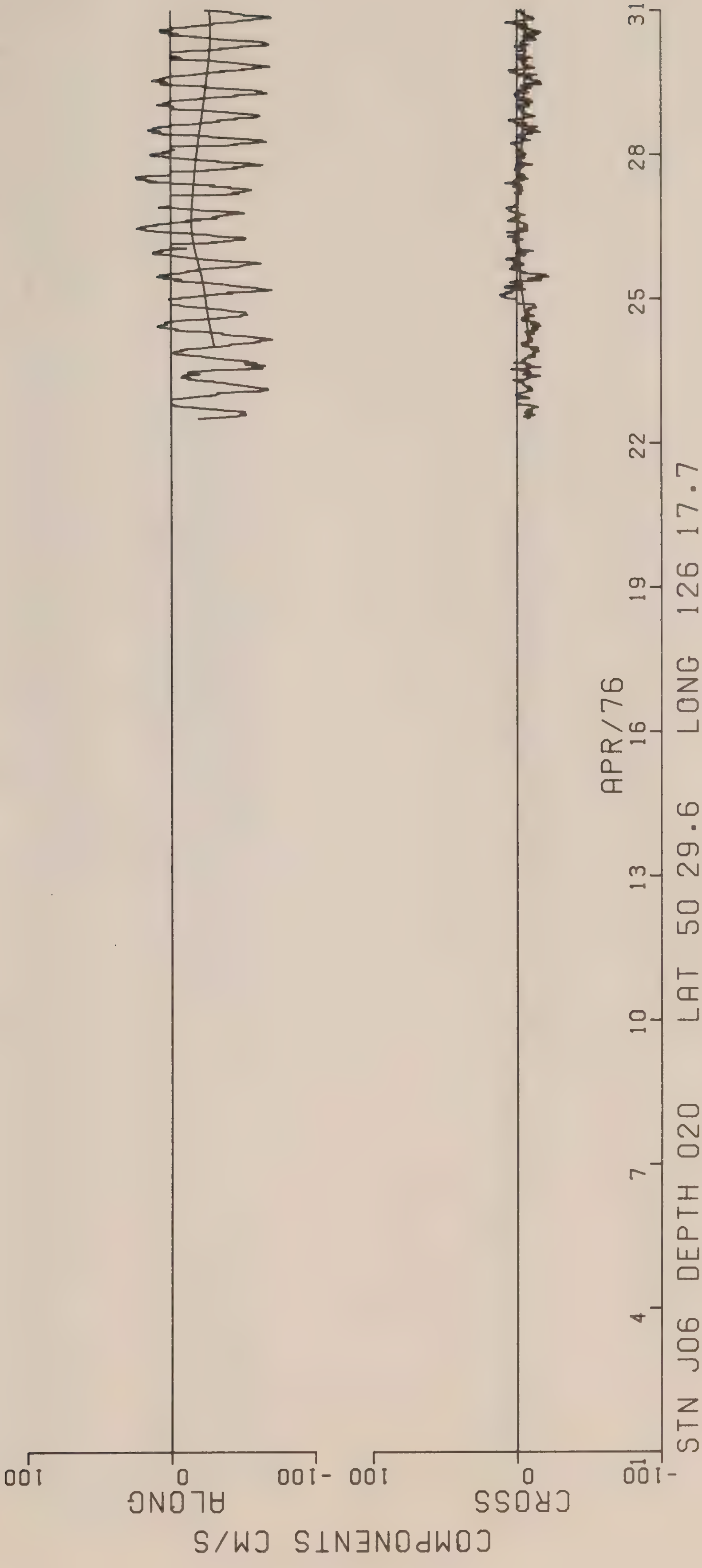
STN J03 DEPTH 020 LAT 50 28.3 LONG 126 8.0
JUN/76
4
7
10
13
16
19
22
25
28
31
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100

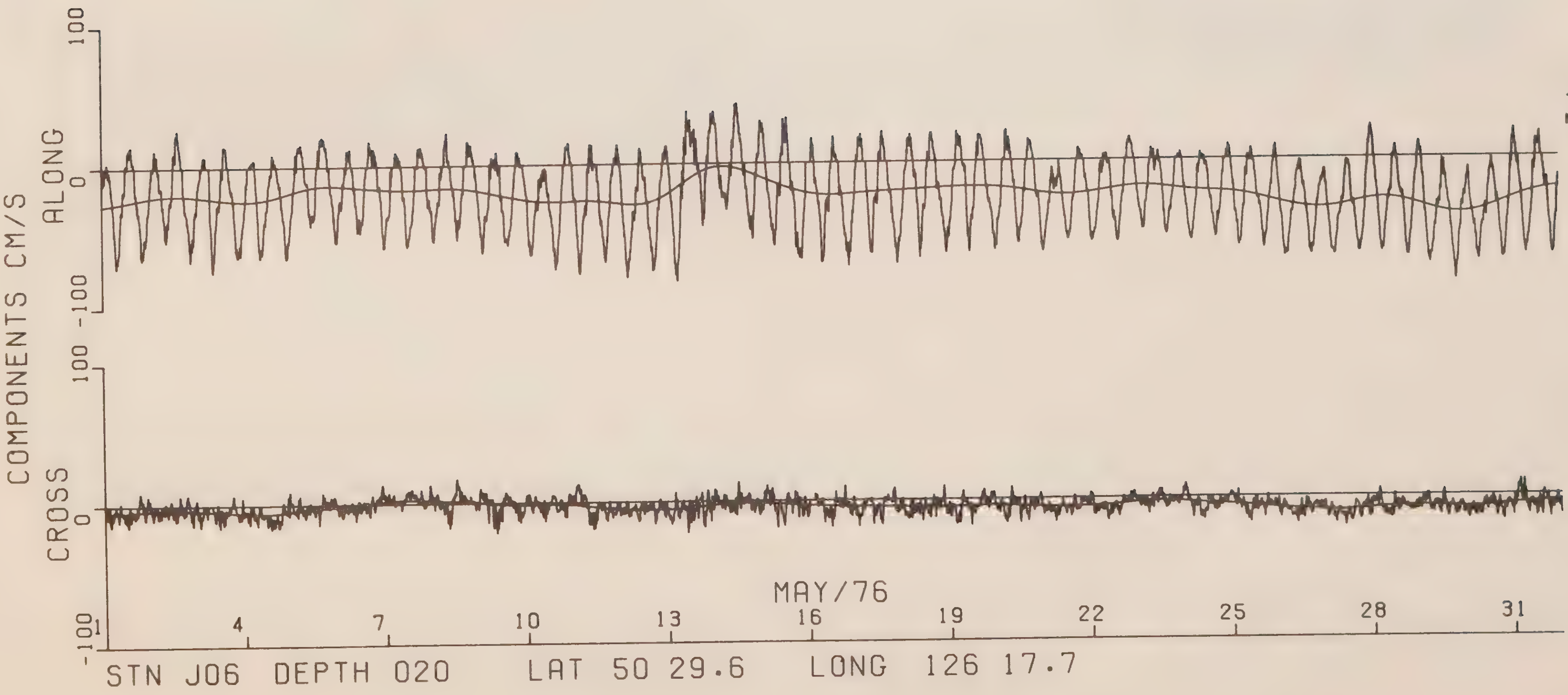

STN J03 DEPTH 225 LAT 50 28.3 LONG 126 8.0
APR/76
4
7
10
13
16
19
22
25
28
31
SAL O/OO
31.0
32.0
TEMP C
7.0
8.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S


SAL O/OO
32.0
31.0
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
MAY/76
1
4
7
10
13
16
19
22
25
28
31
STN J03 DEPTH 225 LAT 50 28.3 LONG 126 8.0



SAL O/OO
32.0
31.0
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
4
7
10
13
16
19
22
25
28
31
JUN/76
STN J03 DEPTH 225 LAT 50 28.3 LONG 126 8.0


COMPONENTS CM/S
ALONG
CROSS
100 0 -100
100 0 -100
STN J06 DEPTH 020 LAT 50 29.6 LONG 126 17.7
APR/76
4 7 10 13 16 19 22 25 28 31


COMPONENTS CM/S
ALONG
CROSS
100
0
-100
MAY/76
1
4
7
10
13
16
19
22
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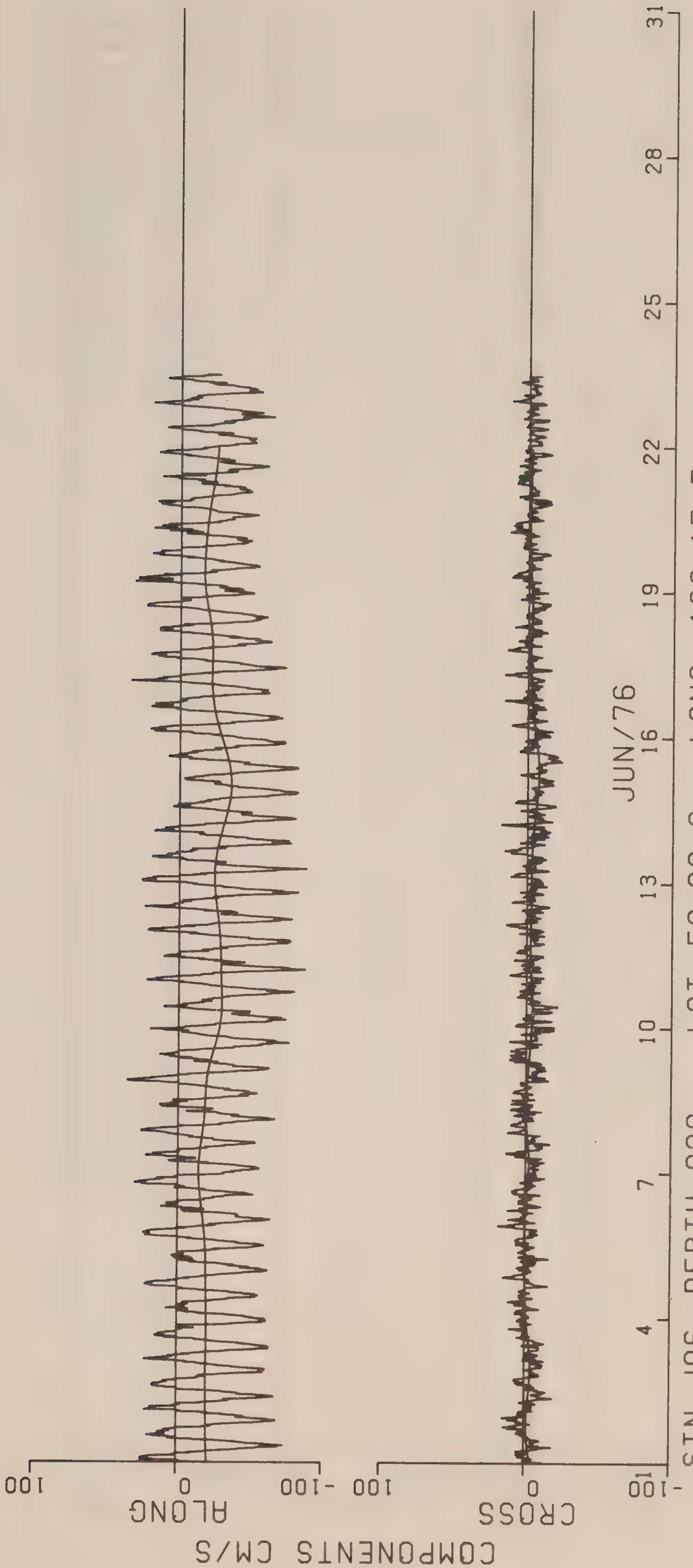
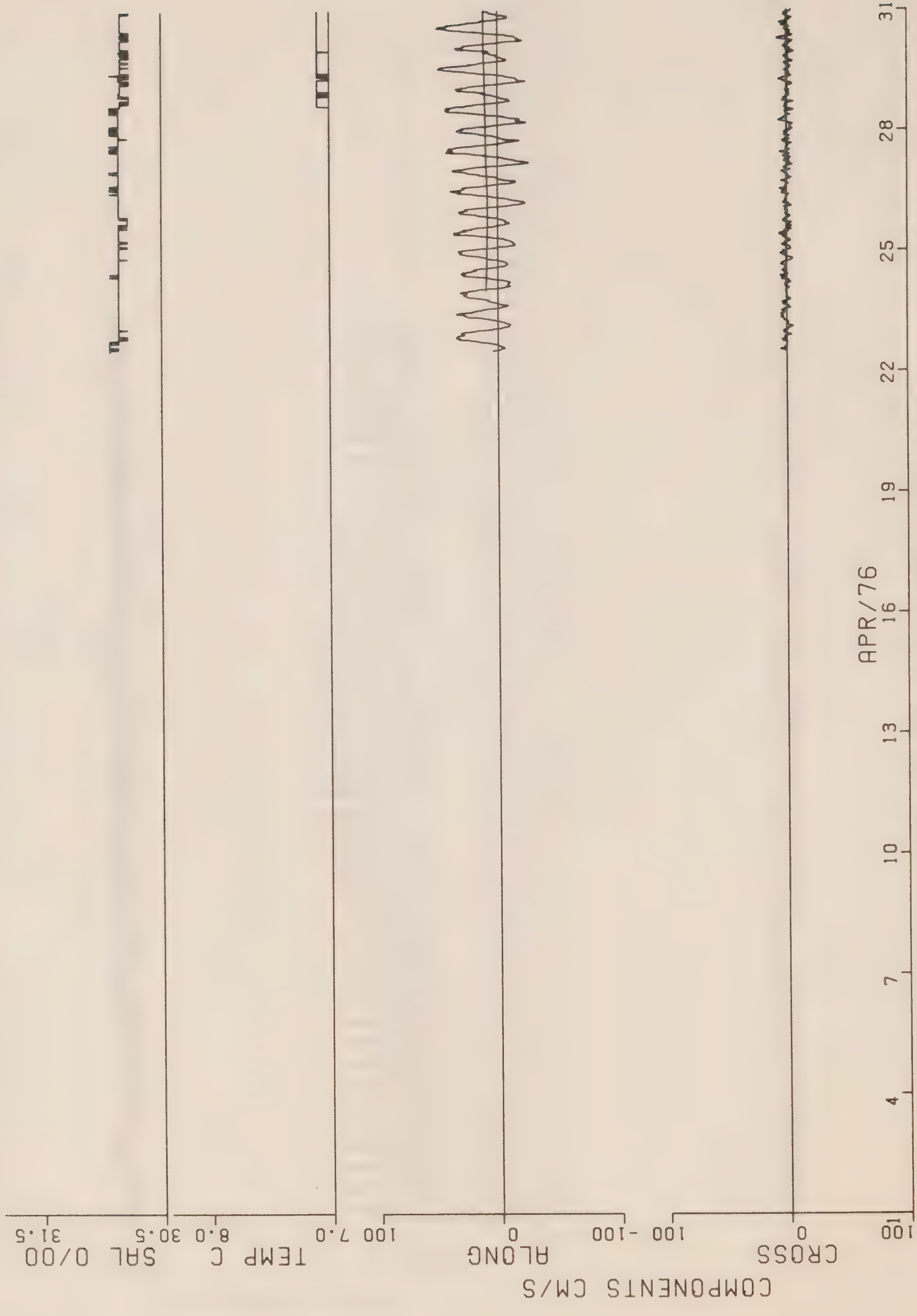
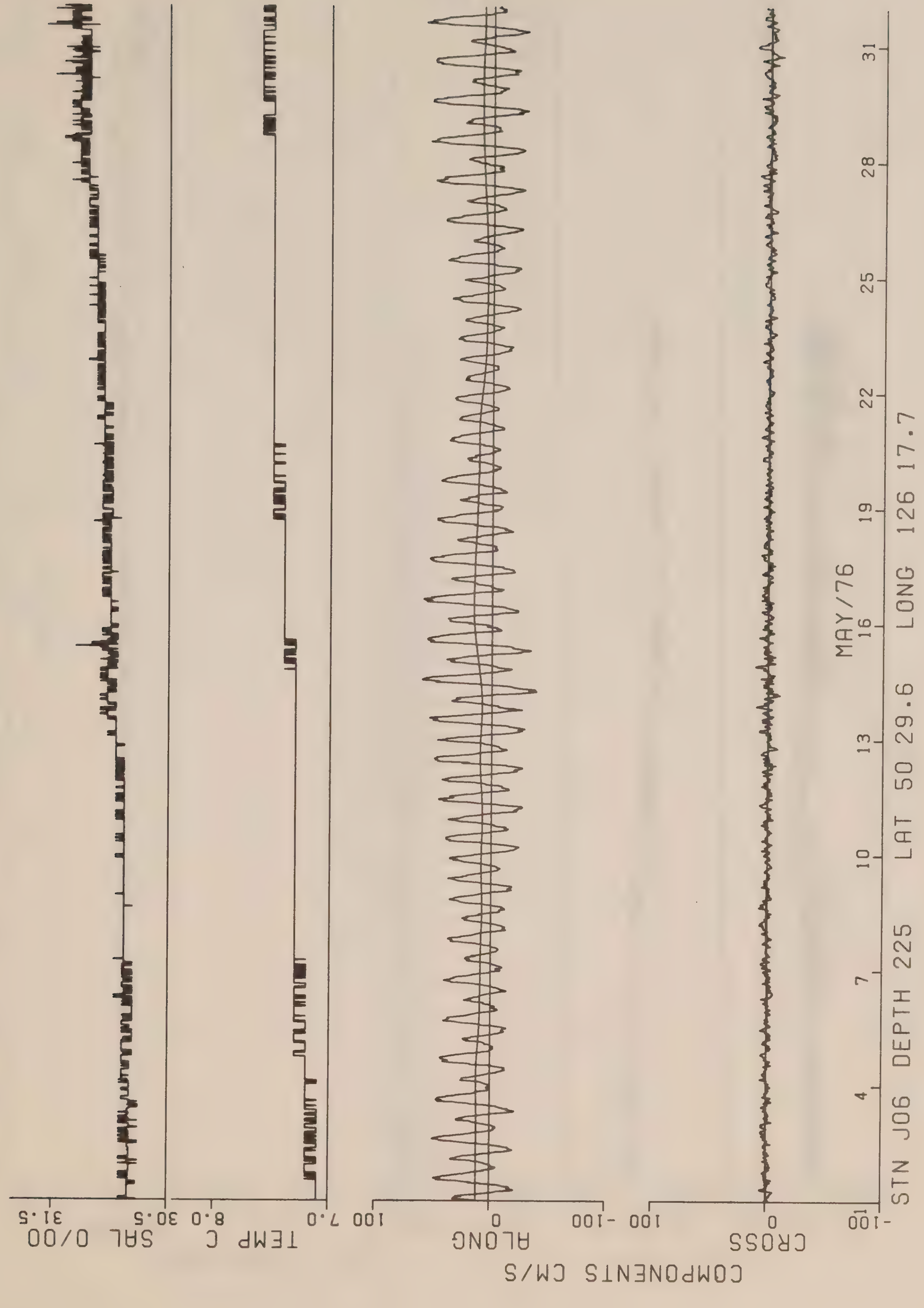
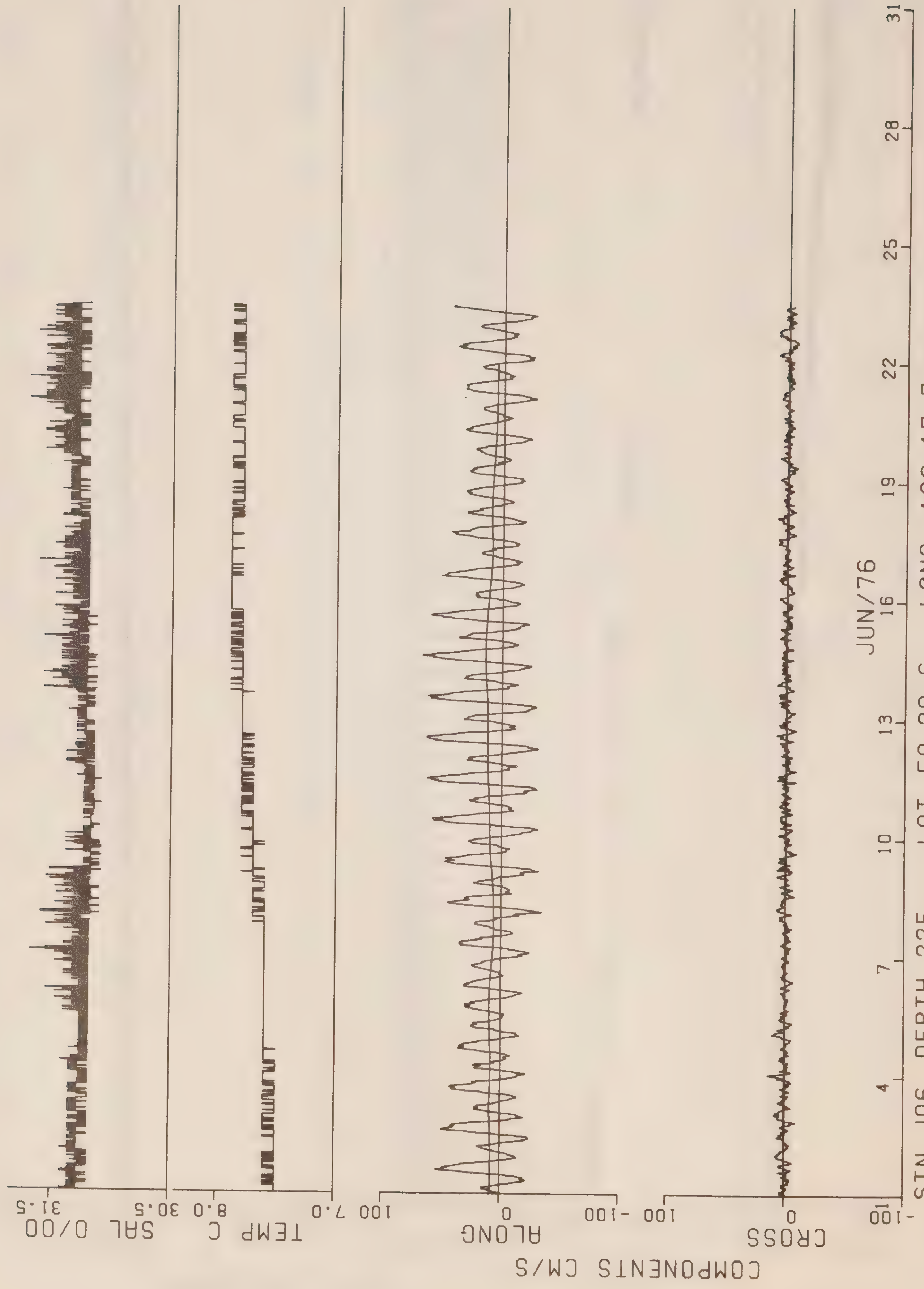
31
STN J06 DEPTH 020 LAT 50 29.6 LONG 126 17.7

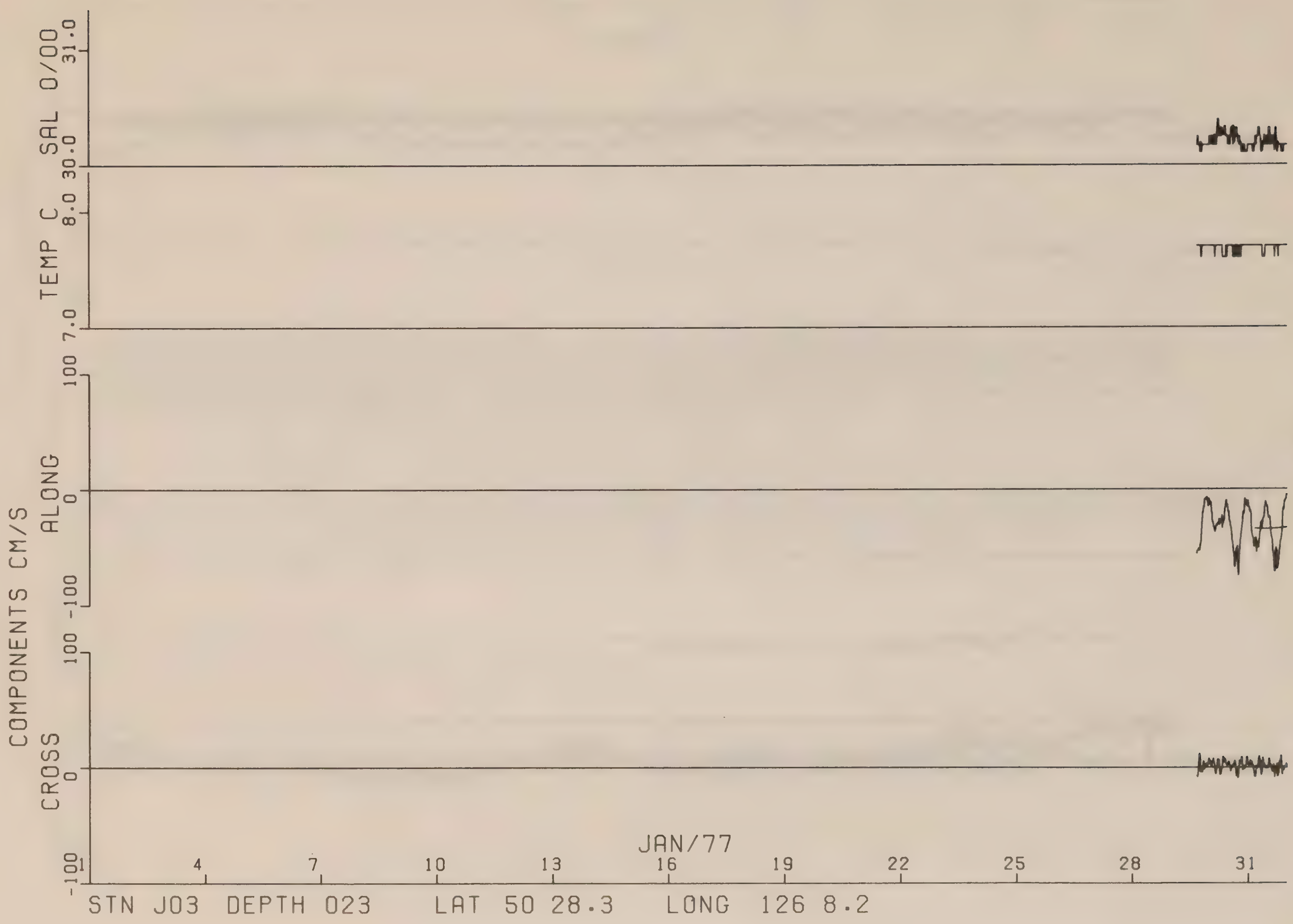

STN J06 DEPTH 020 LAT 50 29.6 LONG 126 17.7
JUN/76
1
4
7
10
13
16
19
22
25
28
31
COMPONENTS CM/S
ALONG
CROSS
100
0
-100

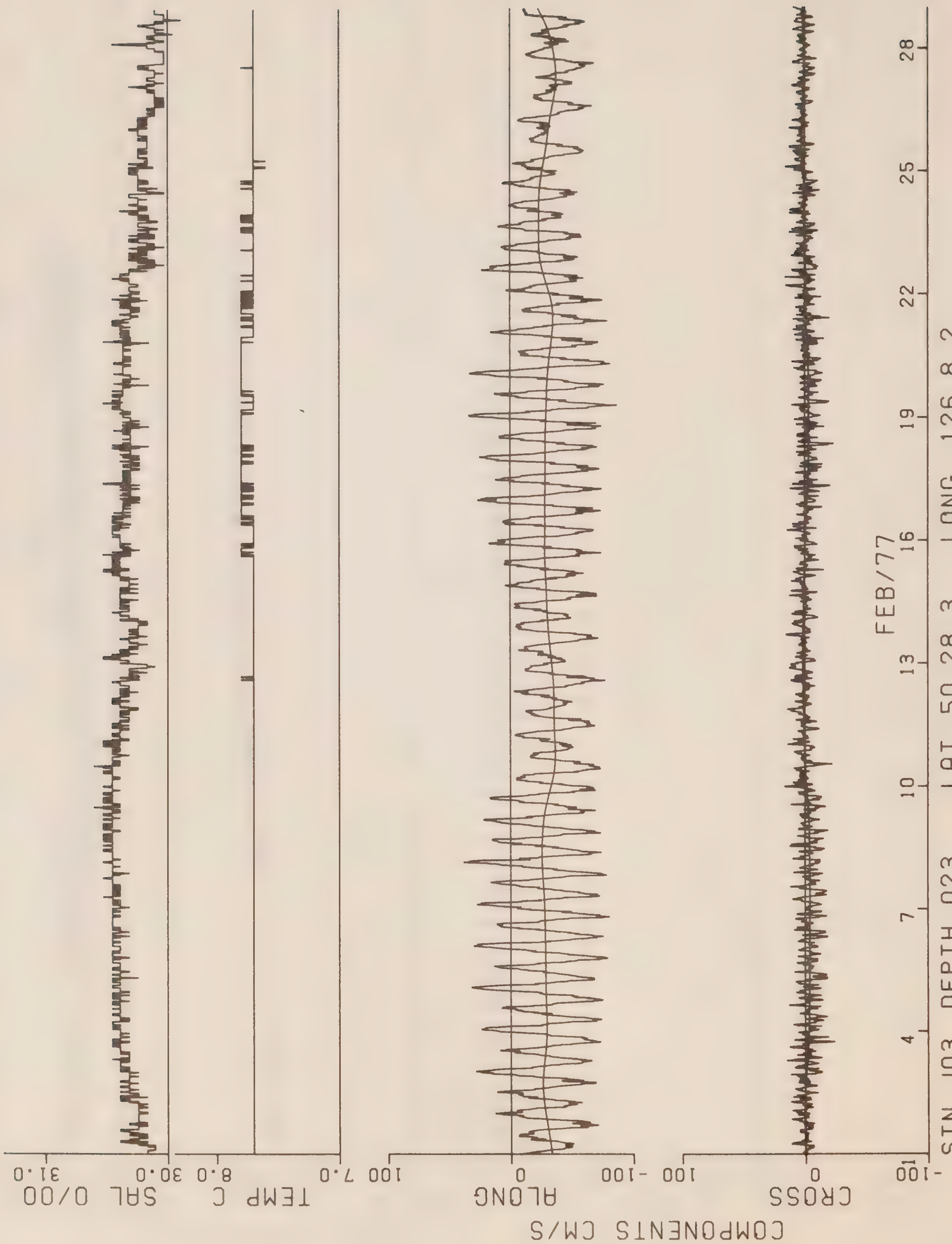

STN J06 DEPTH 225 LAT 50 29.6 LONG 126 17.7
APR/76
1 4 7 10 13 16 19 22 25 28 31
SAL O/OO
30.5 31.5
TEMP C
7.0 8.0
ALONG
-100 0 100
CROSS
-100 0 100
COMPONENTS CM/S



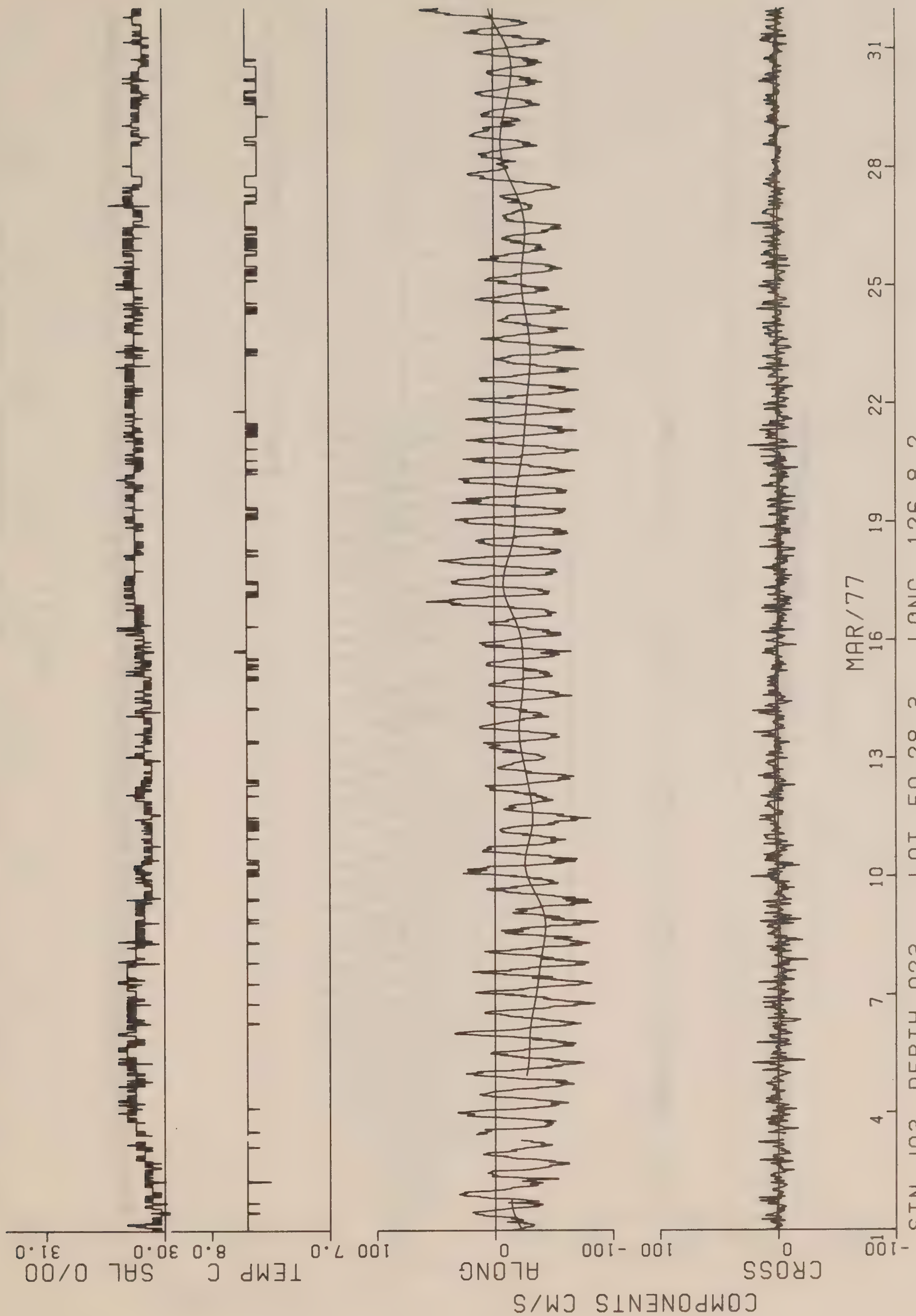
SAL O/OO
31.5
30.5
TEMP C
8.0
7.0
100
0
-100
ALONG
100
0
-100
CROSS
COMPONENTS CM/S
1
4
7
10
13
16
19
22
25
28
31
MAY/76
STN J06 DEPTH 225 LAT 50 29.6 LONG 126 17.7


SAL O/OO
31.5
30.5
TEMP C
8.0
7.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
1 4 7 10 13 16 19 22 25 28 31
JUN/76
STN J06 DEPTH 225 LAT 50 29.6 LONG 126 17.7

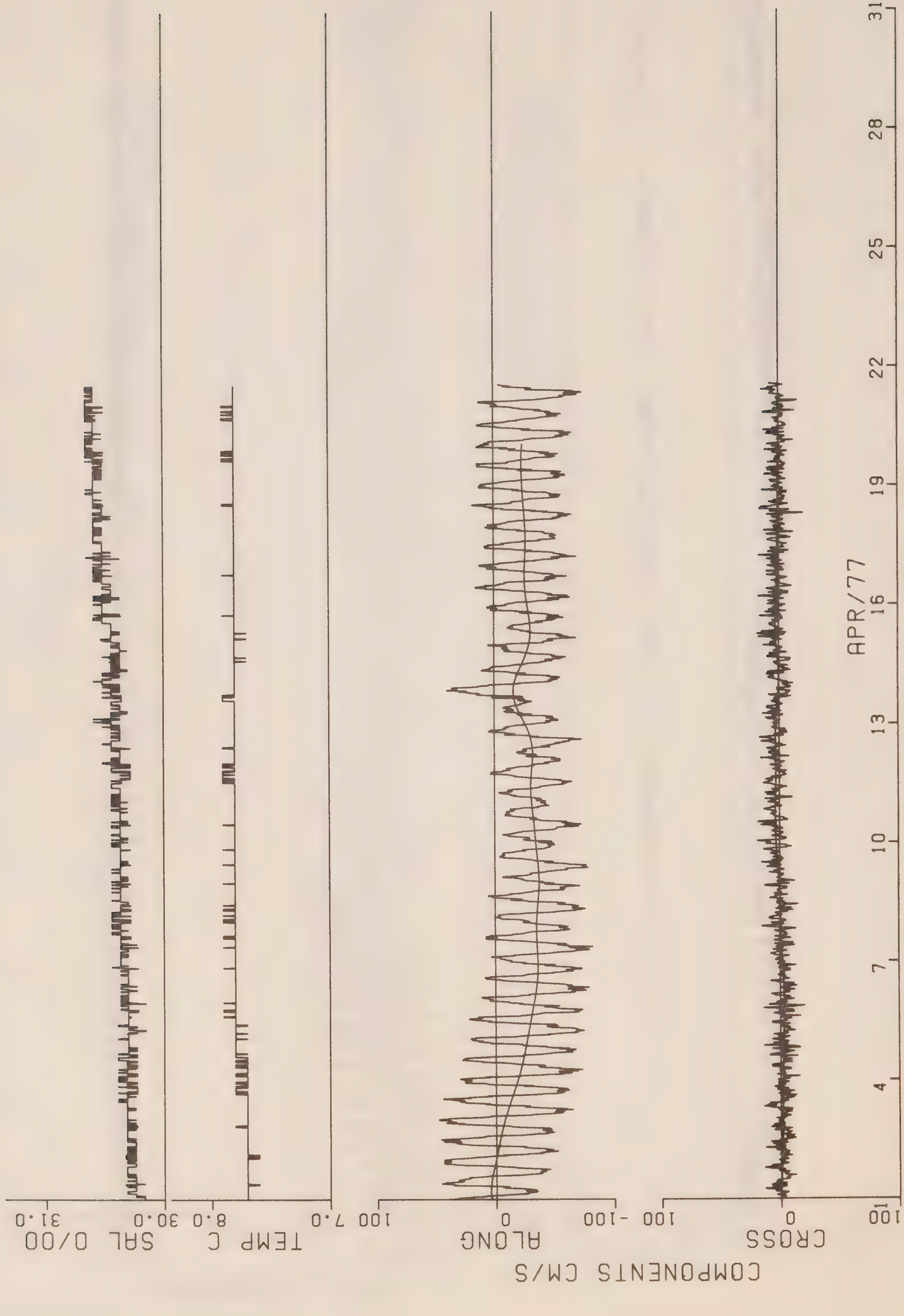

SAL O/OO
31.0
30.0
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
4
7
10
13
16
19
22
25
28
31
JAN/77
STN J03 DEPTH 023 LAT 50 28.3 LONG 126 8.2



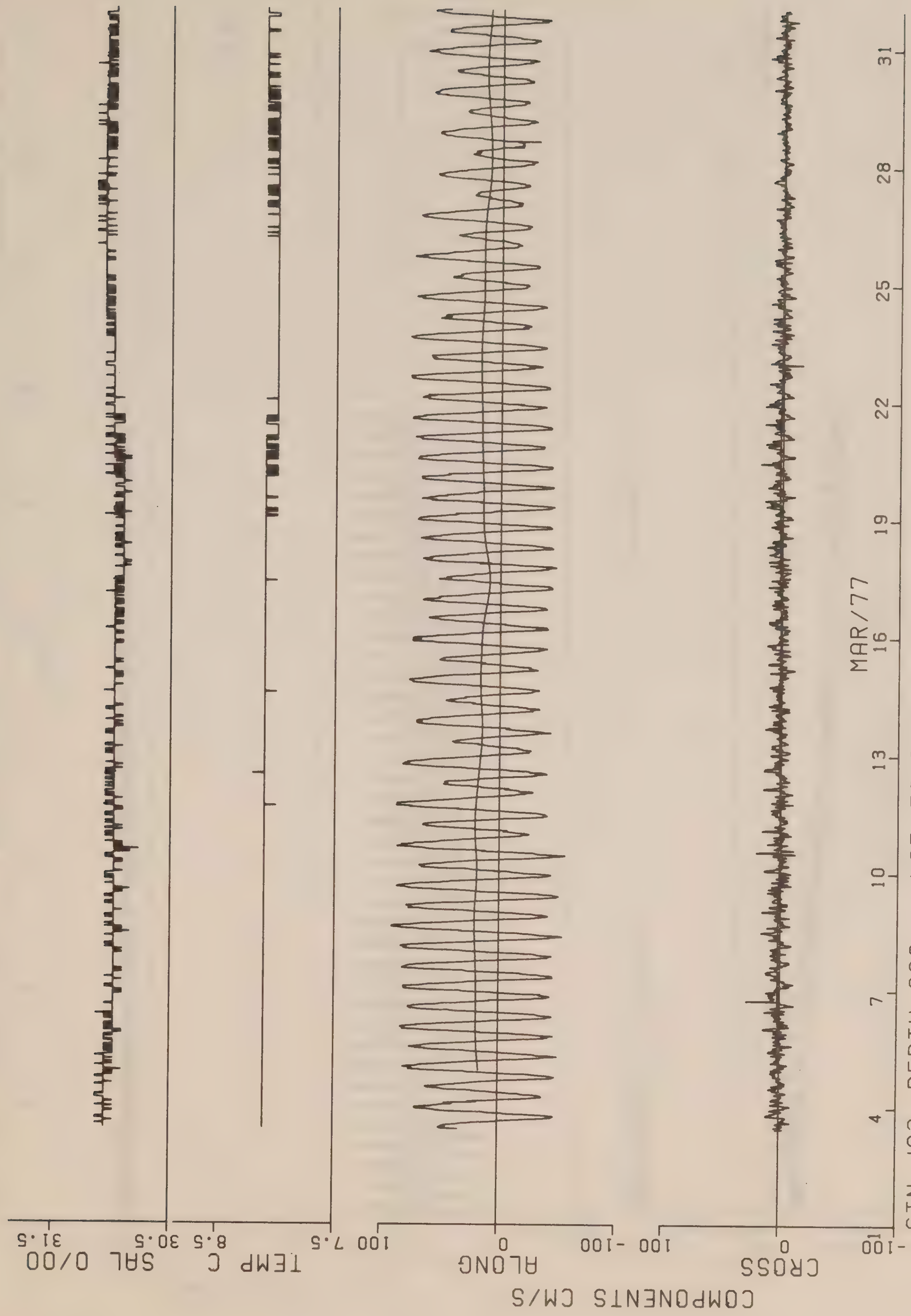
STN J03 DEPTH 023 LAT 50 28.3 LONG 126 8.2
FEB/77
4
7
10
13
16
19
22
25
28
SAL O/OO
31.0
30.0
TEMP C
8.0
7.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S

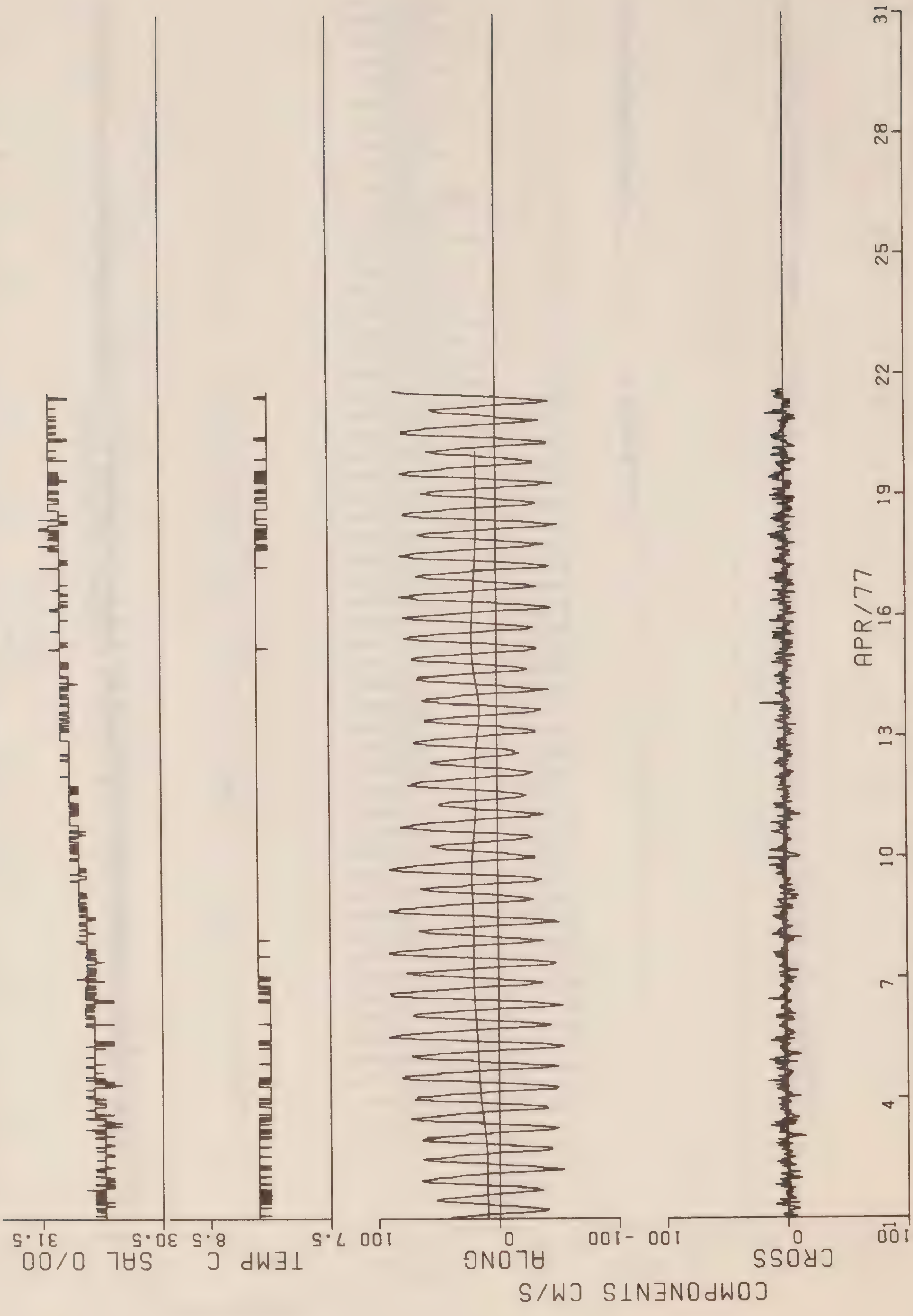


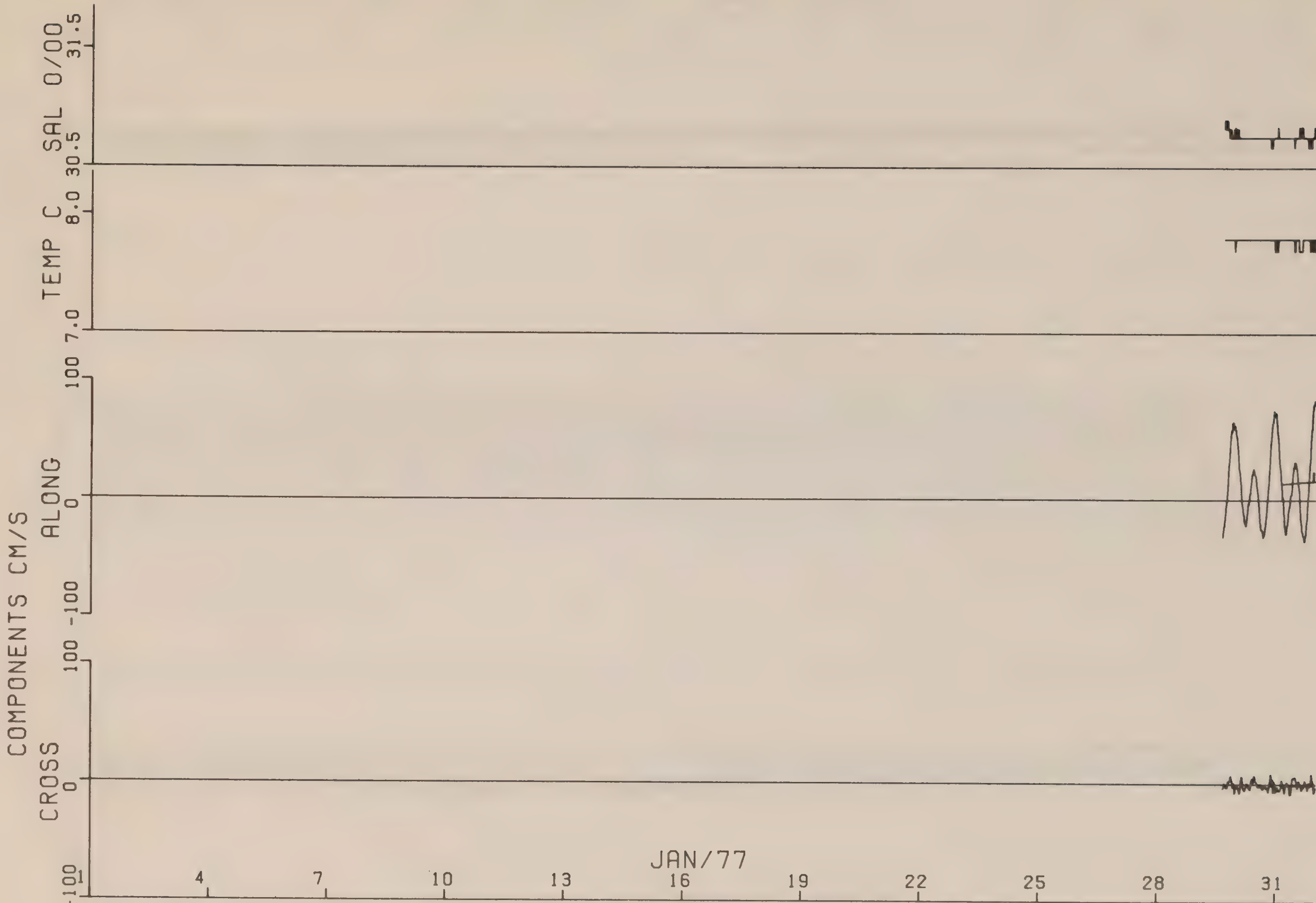
SAL O/OO
31.0
30.0
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
4
7
10
13
16
19
22
25
28
31
MAR/77
STN J03 DEPTH 023 LAT 50 28.3 LONG 126 8.2



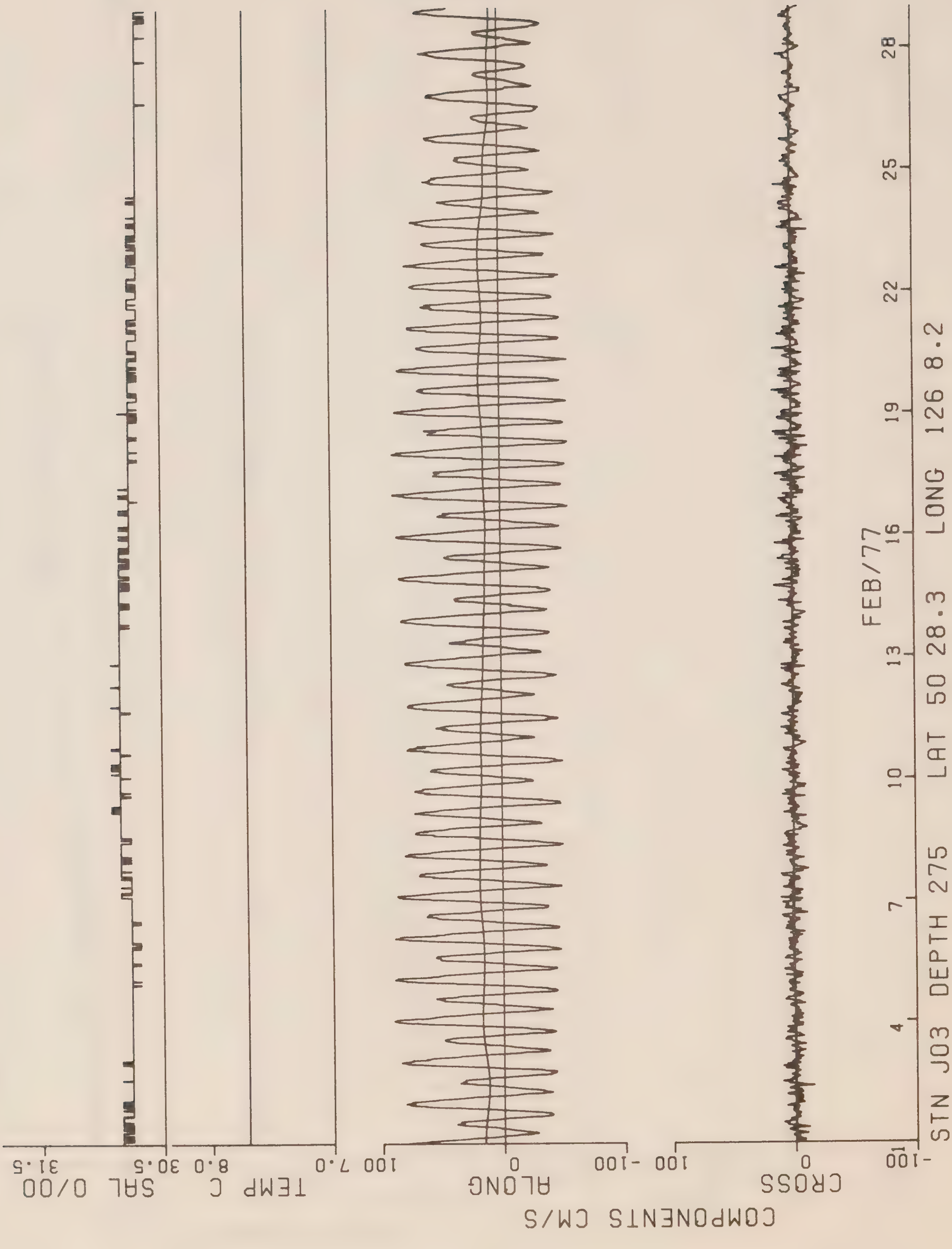
SAL O/OO
31.0
30.0
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
4
7
10
13
16
19
22
25
28
31
APR/77
STN J03 DEPTH 023 LAT 50 28.3 LONG 126 8.2

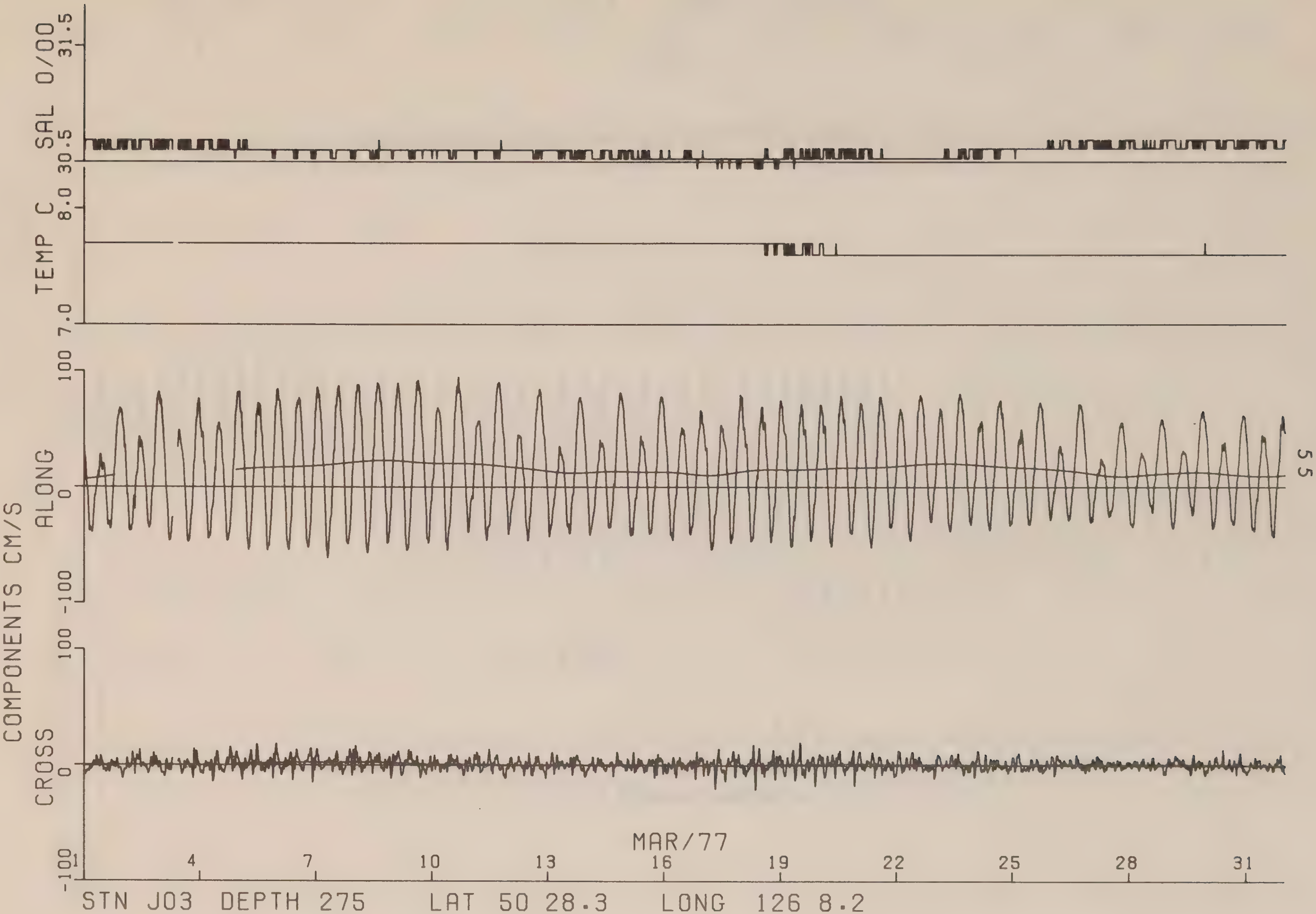

SAL O/OO
31.5
30.5
TEMP C
8.5
7.5
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
4
7
10
13
16
19
22
25
28
31
MAR/77
STN J03 DEPTH 200 LAT 50 28.3 LONG 126 8.2


SAL O/OO
31.5
30.5
TEMP C
8.5
7.5
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
01
4
7
10
13
16
19
22
25
28
31
APR/77
STN J03 DEPTH 200 LAT 50 28.3 LONG 126 8.2

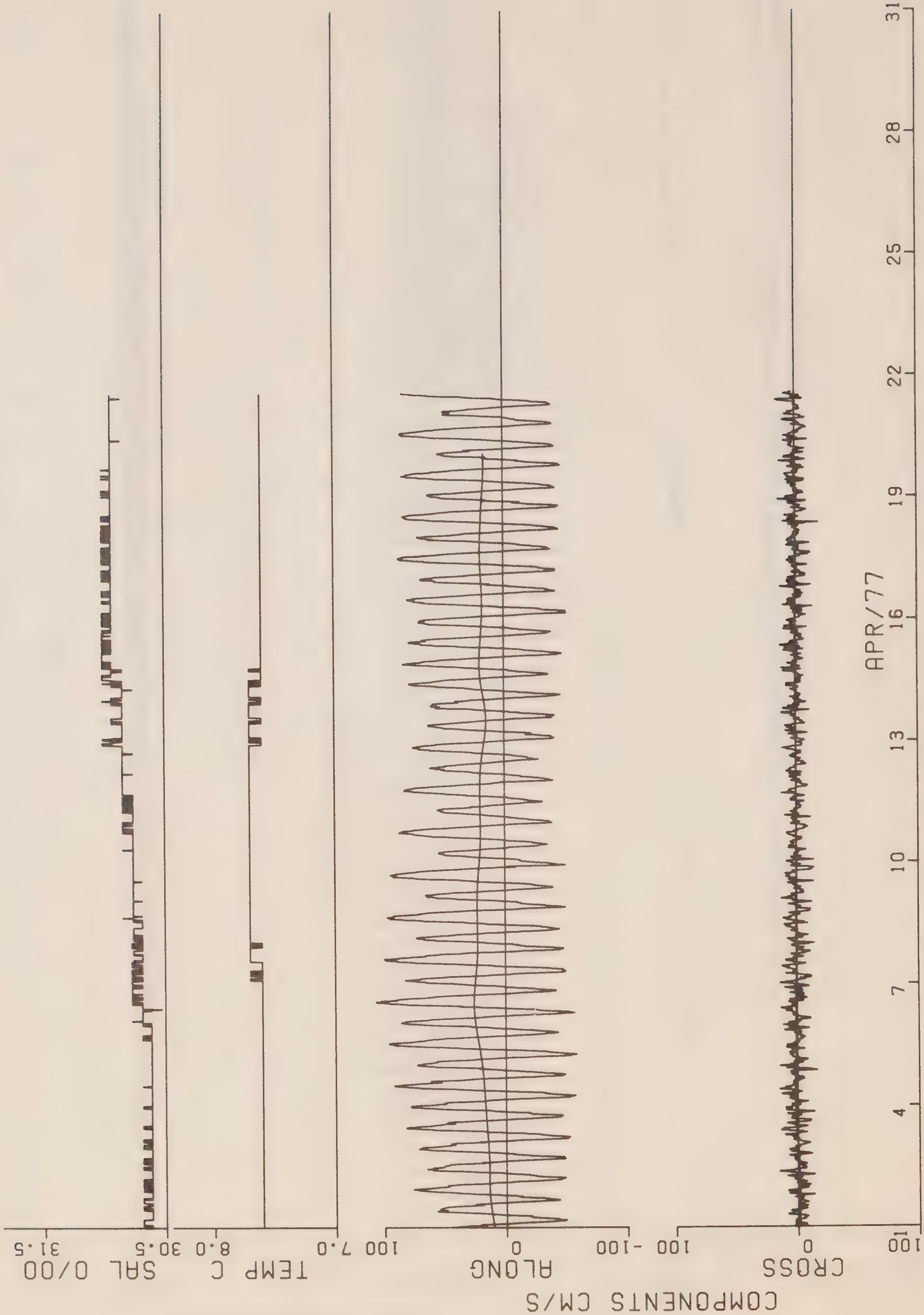


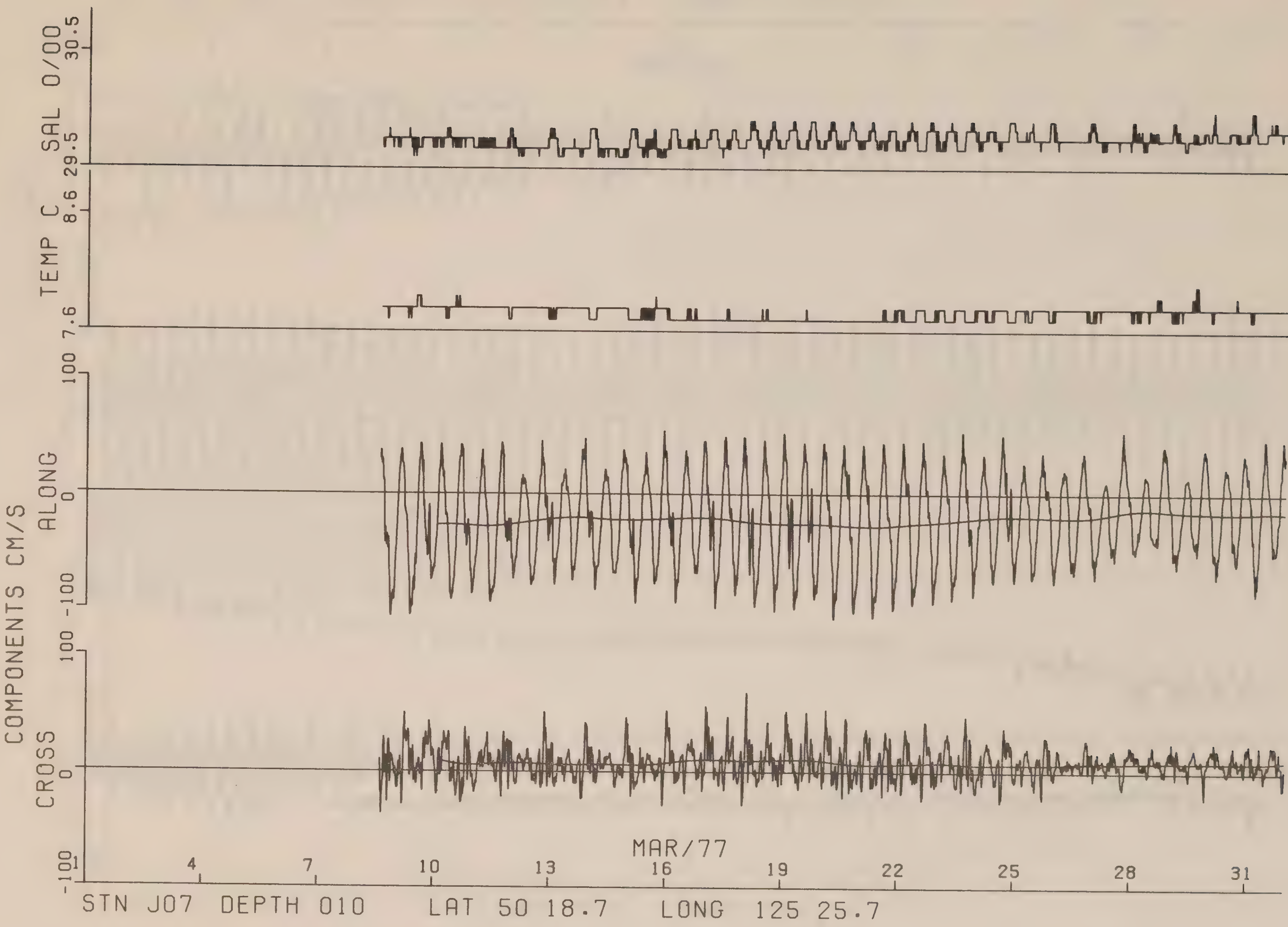

STN J03 DEPTH 275 LAT 50 28.3 LONG 126 8.2


SAL O/OO
31.5
30.5
TEMP C
8.0
7.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
4
7
10
13
16
19
22
25
28
FEB/77
STN J03 DEPTH 275 LAT 50 28.3 LONG 126 8.2



SAL O/OO
31.5
30.5
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
55
CROSS
100
0
-100
MAR/77
1
4
7
10
13
16
19
22
25
28
31
STN J03 DEPTH 275 LAT 50 28.3 LONG 126 8.2


SAL O/OO
30.5
31.5
TEMP C
7.0
8.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
1
4
7
10
13
16
19
22
25
28
31
APR/77
STN J03 DEPTH 275 LAT 50 28.3 LONG 126 8.2


SAL O/OO
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TEMP C
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7.6
COMPONENTS CM/S
ALONG
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0
-100
CROSS
100
0
-100
MAR/77
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4
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10
13
16
19
22
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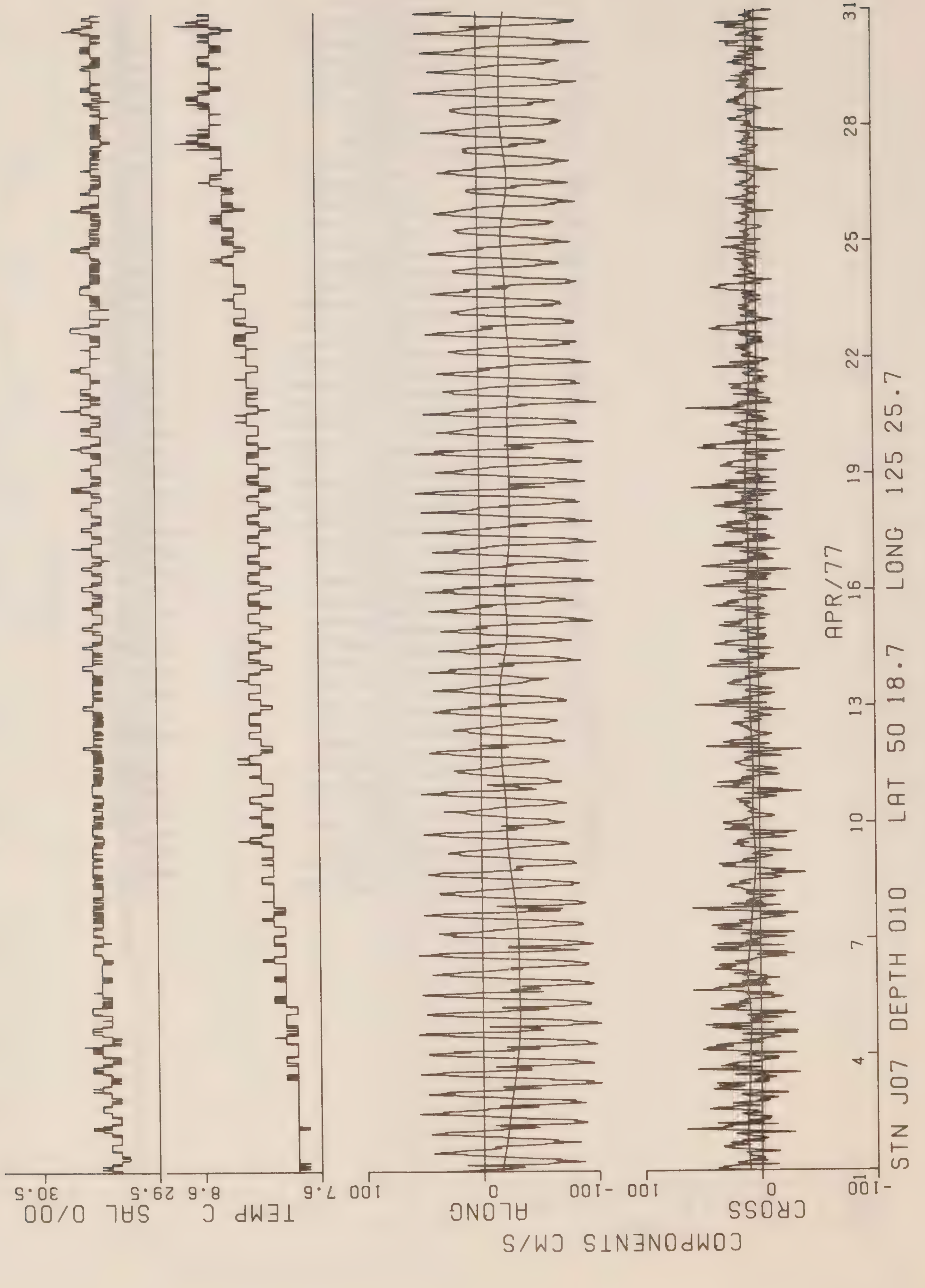
31
STN J07 DEPTH 010 LAT 50 18.7 LONG 125 25.7


SAL O/OO
30.5
29.5
TEMP C
8.6
7.6
COMPONENTS CM/S
ALONG
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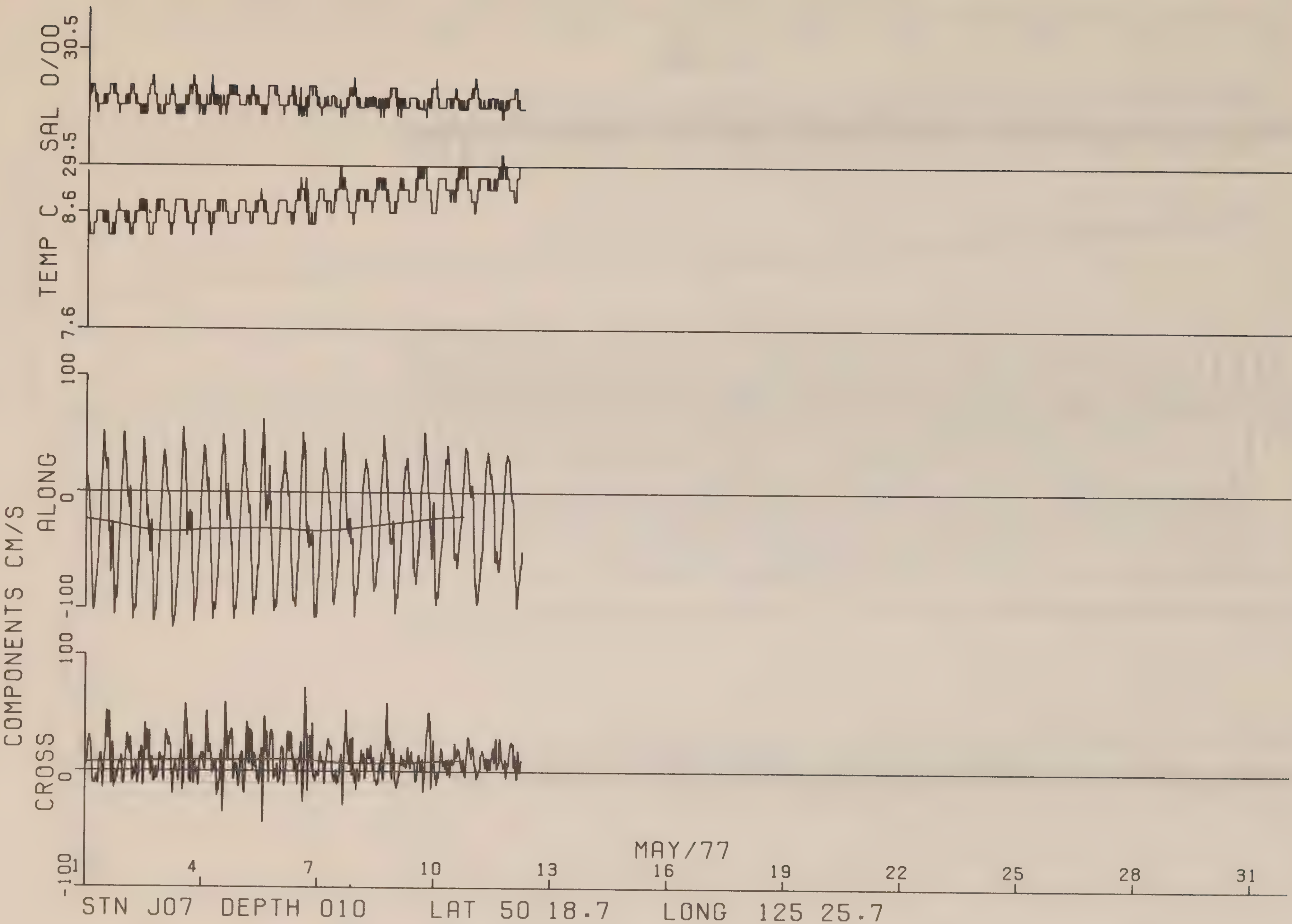
CROSS
100 0 -100
1 4 7 10 13 16 19 22 25 28 31
APR/77
STN J07 DEPTH 010 LAT 50 18.7 LONG 125 25.7


SAL O/OO
30.5
29.5
TEMP C
8.6
7.6
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
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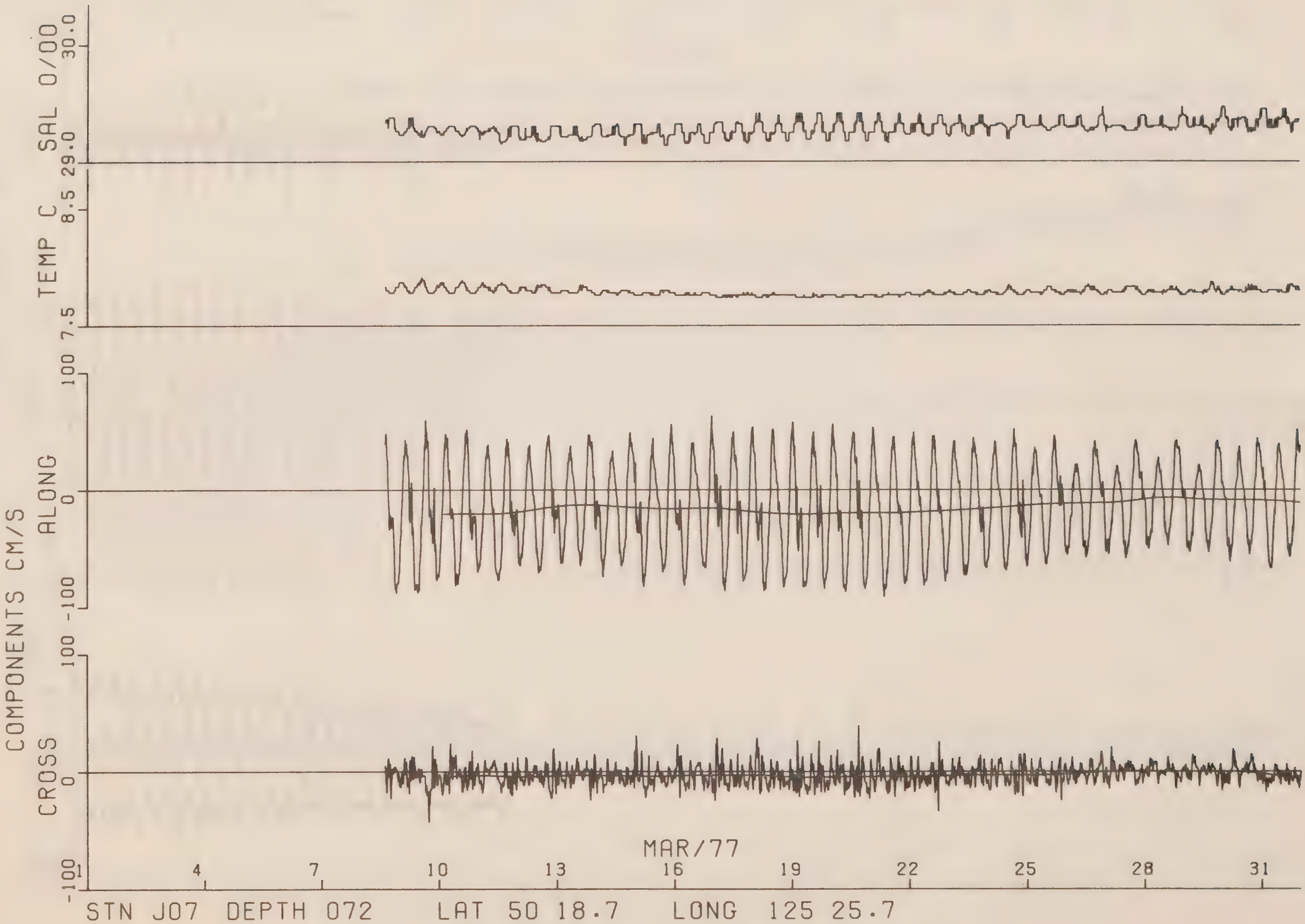
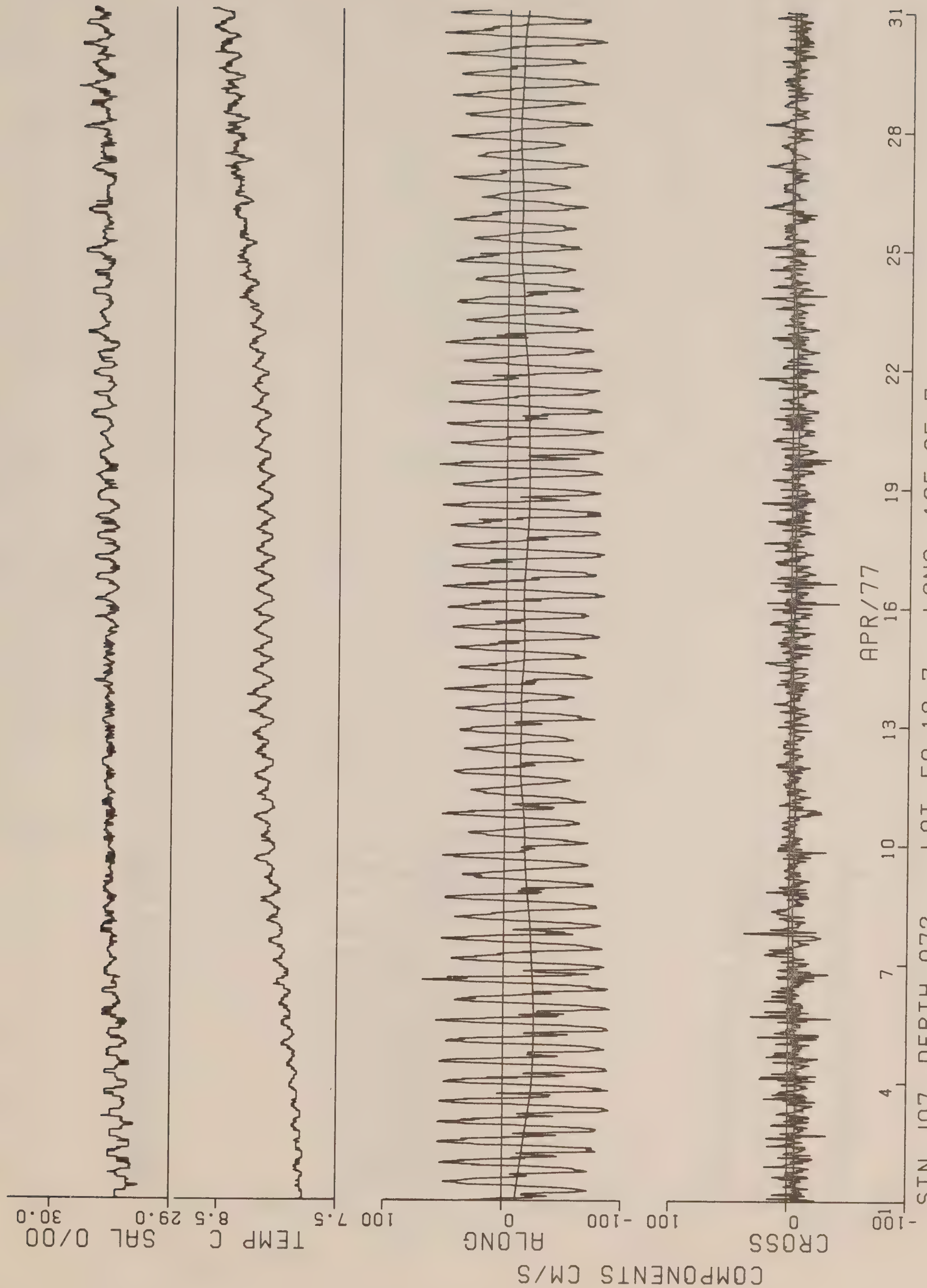
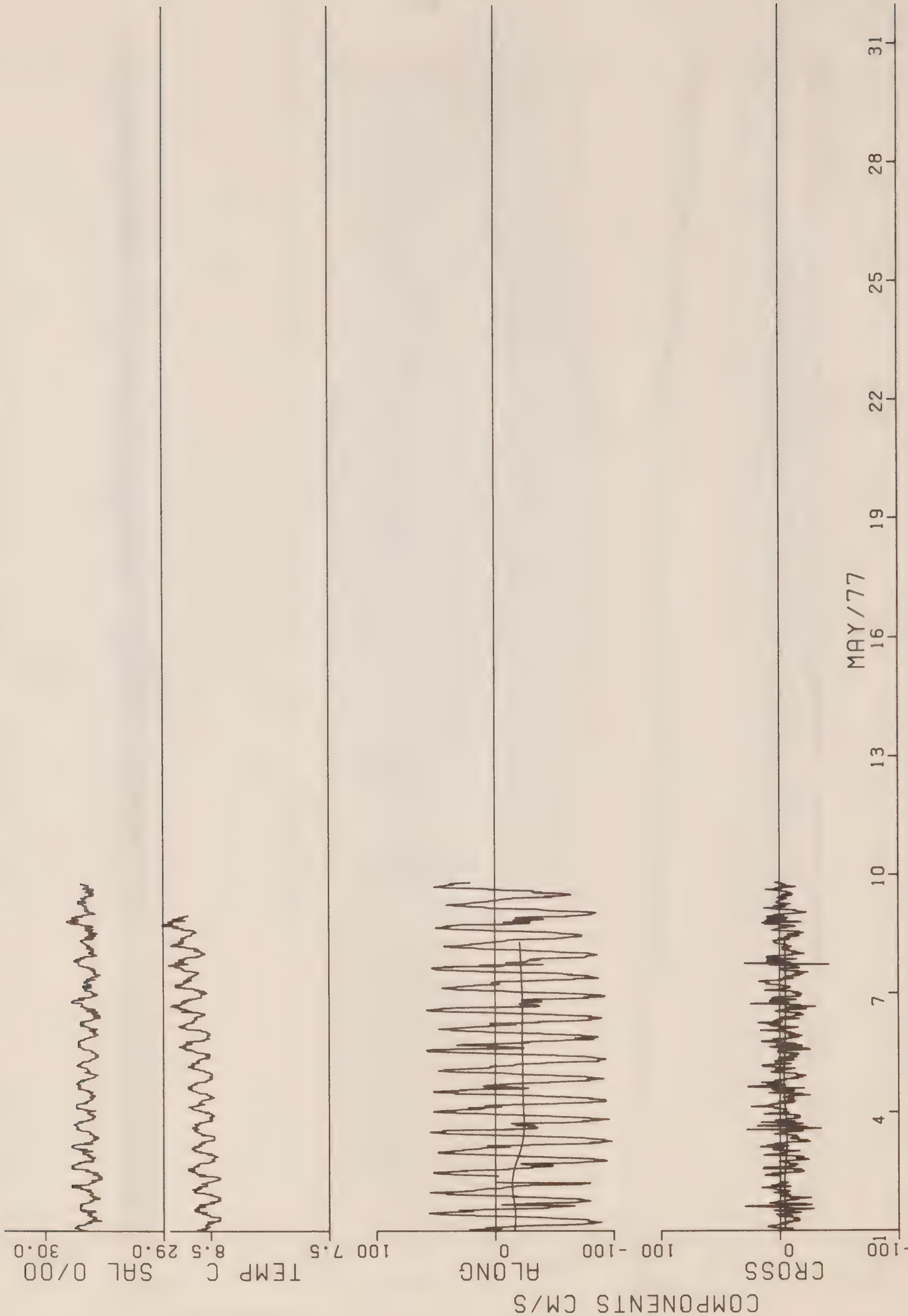
7
10
13
16
19
22
25
28
31
MAY/77
STN J07 DEPTH 010 LAT 50 18.7 LONG 125 25.7


SAL O/OO
30.0
29.0
TEMP C
8.5
7.5
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
MAR/77
1
4
7
10
13
16
19
22
25
28
31
STN J07 DEPTH 072 LAT 50 18.7 LONG 125 25.7



SAL O/OO
30.0
29.0
TEMP C
8.5
7.5
100
0
-100
ALONG
CROSS
COMPONENTS CM/S
STN J07 DEPTH 072 LAT 50 18.7 LONG 125 25.7
APR/77
4
7
10
13
16
19
22
25
28
31


SAL O/OO
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29.0
TEMP C
8.5
7.5
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
MAY/77
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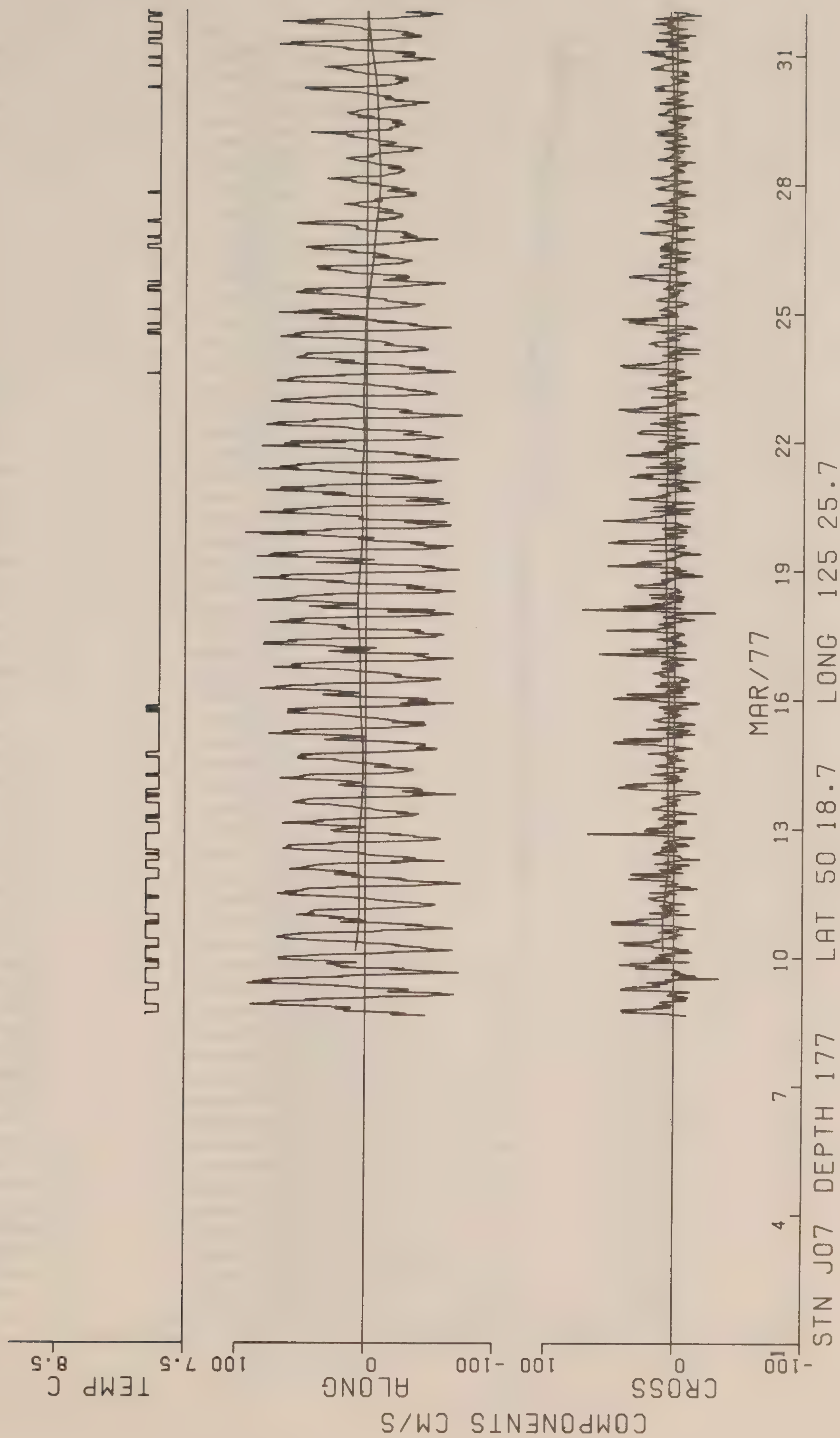
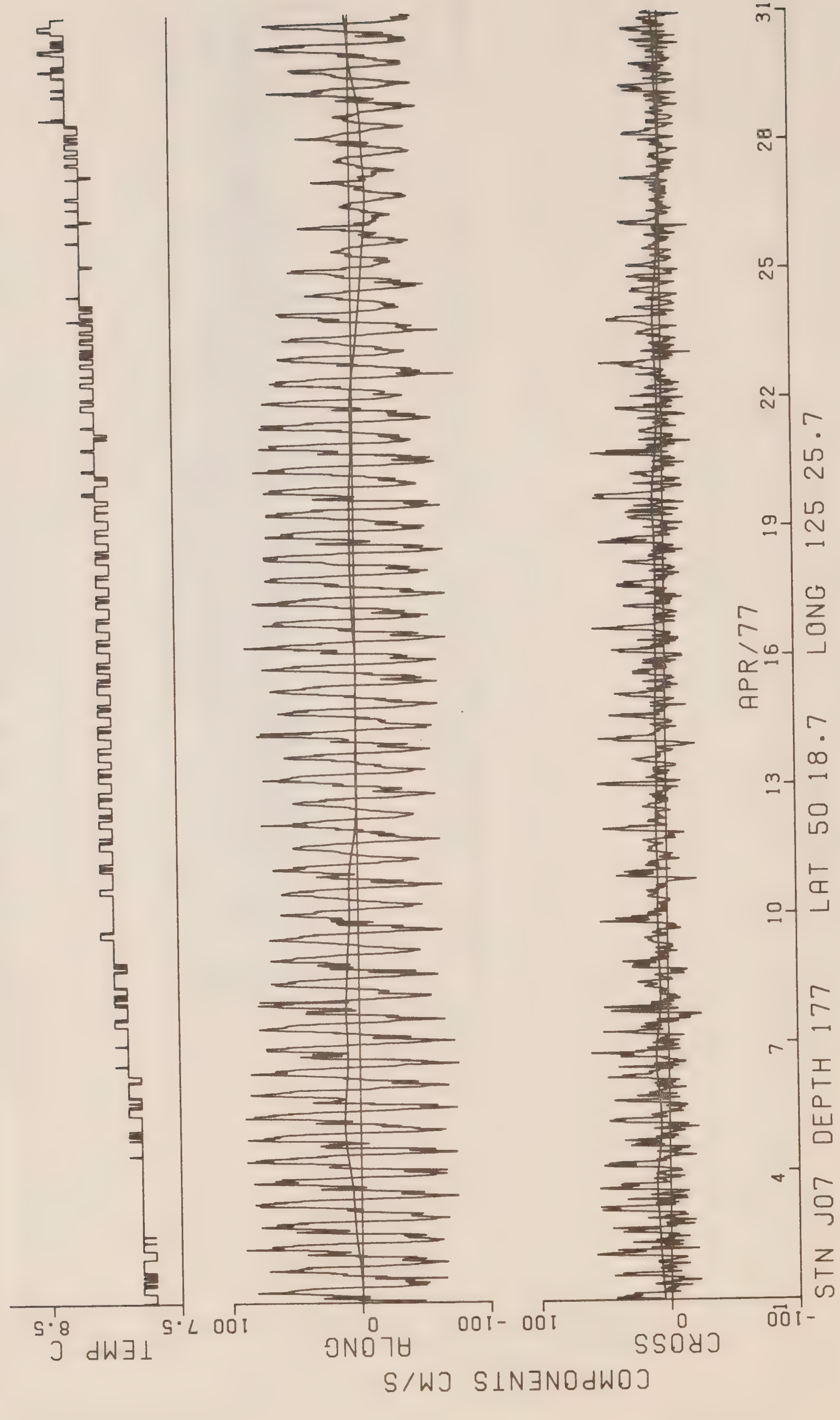
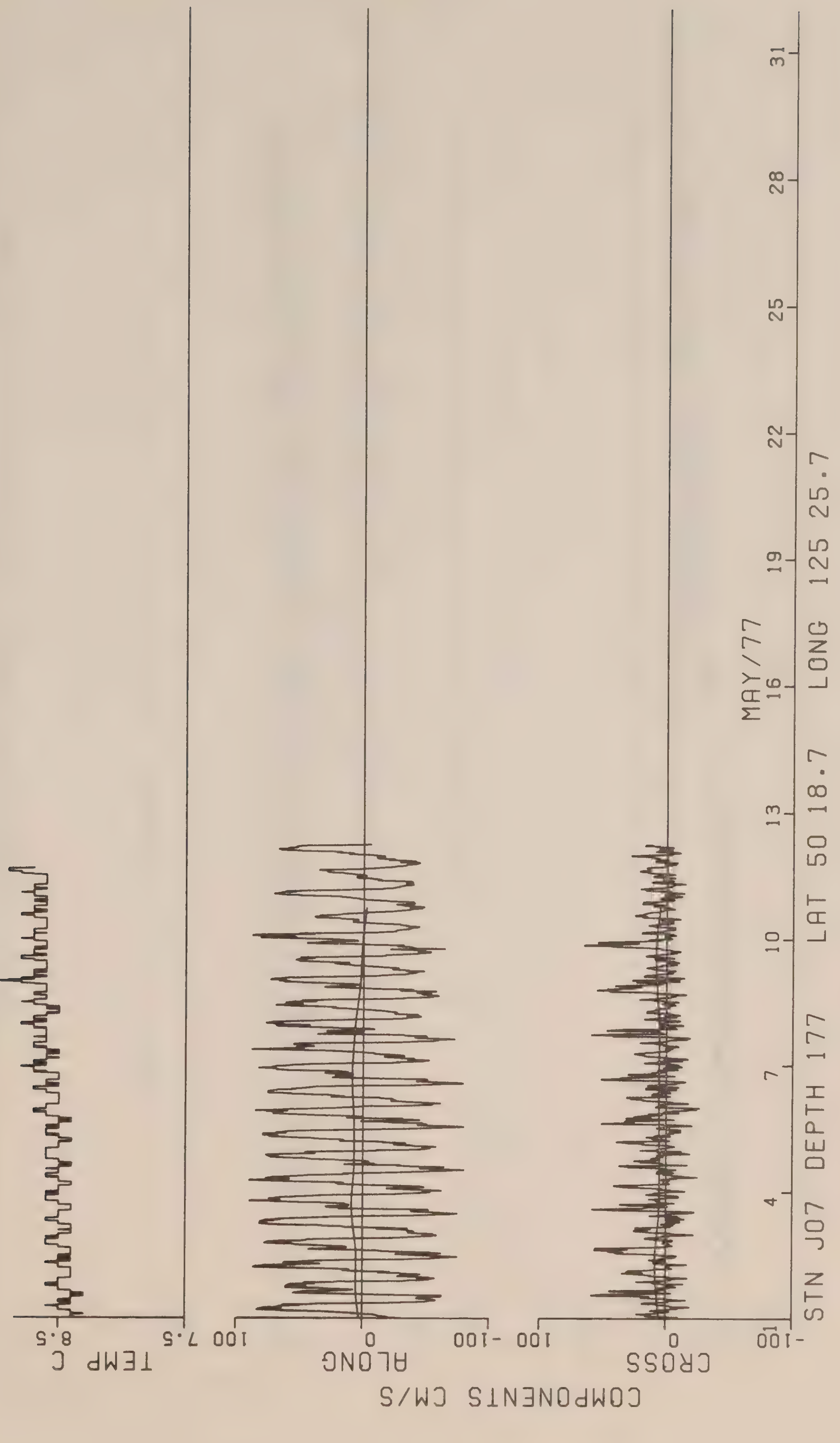
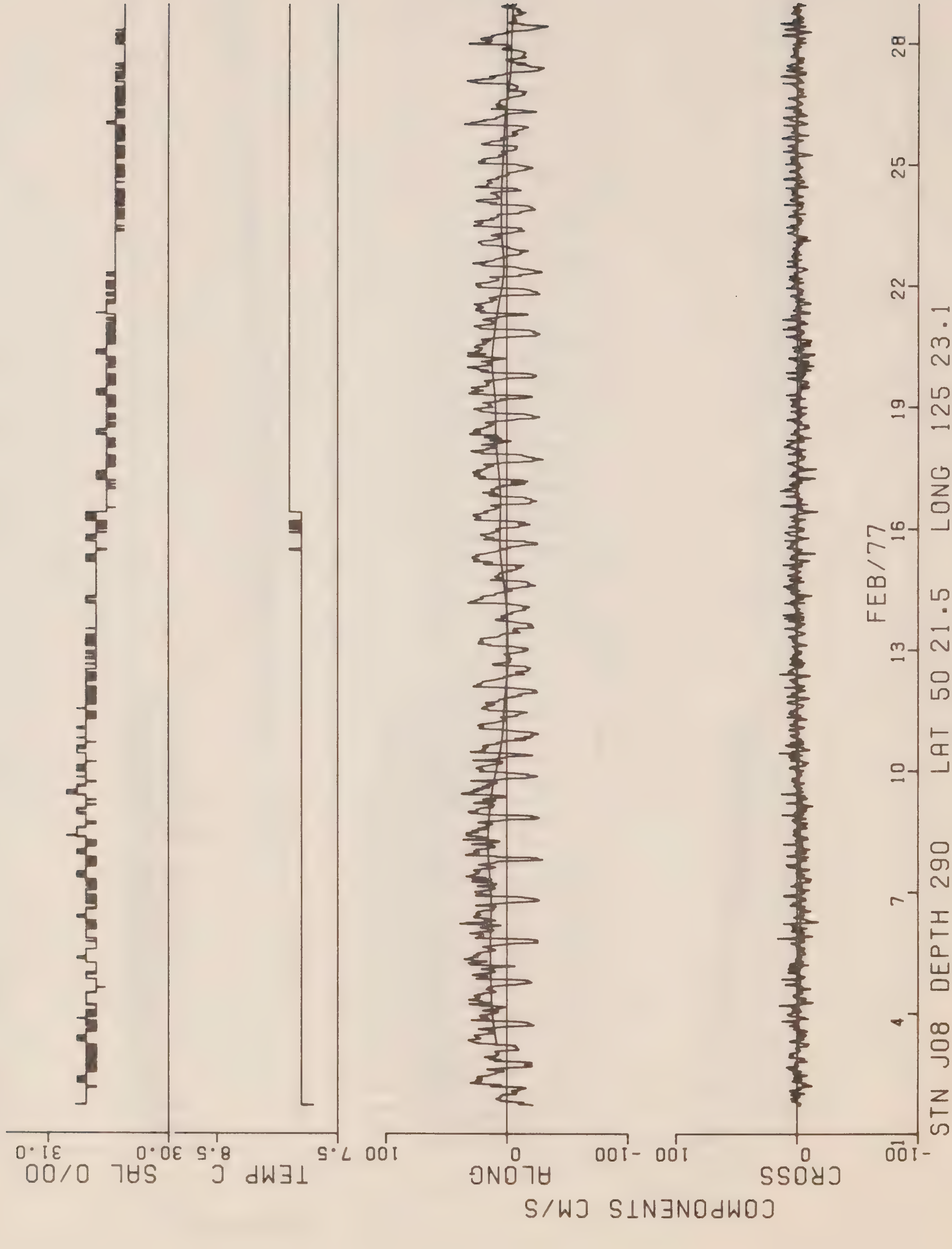
4
7
10
13
16
19
22
25
28
31
STN J07 DEPTH 072 LAT 50 18.7 LONG 125 25.7

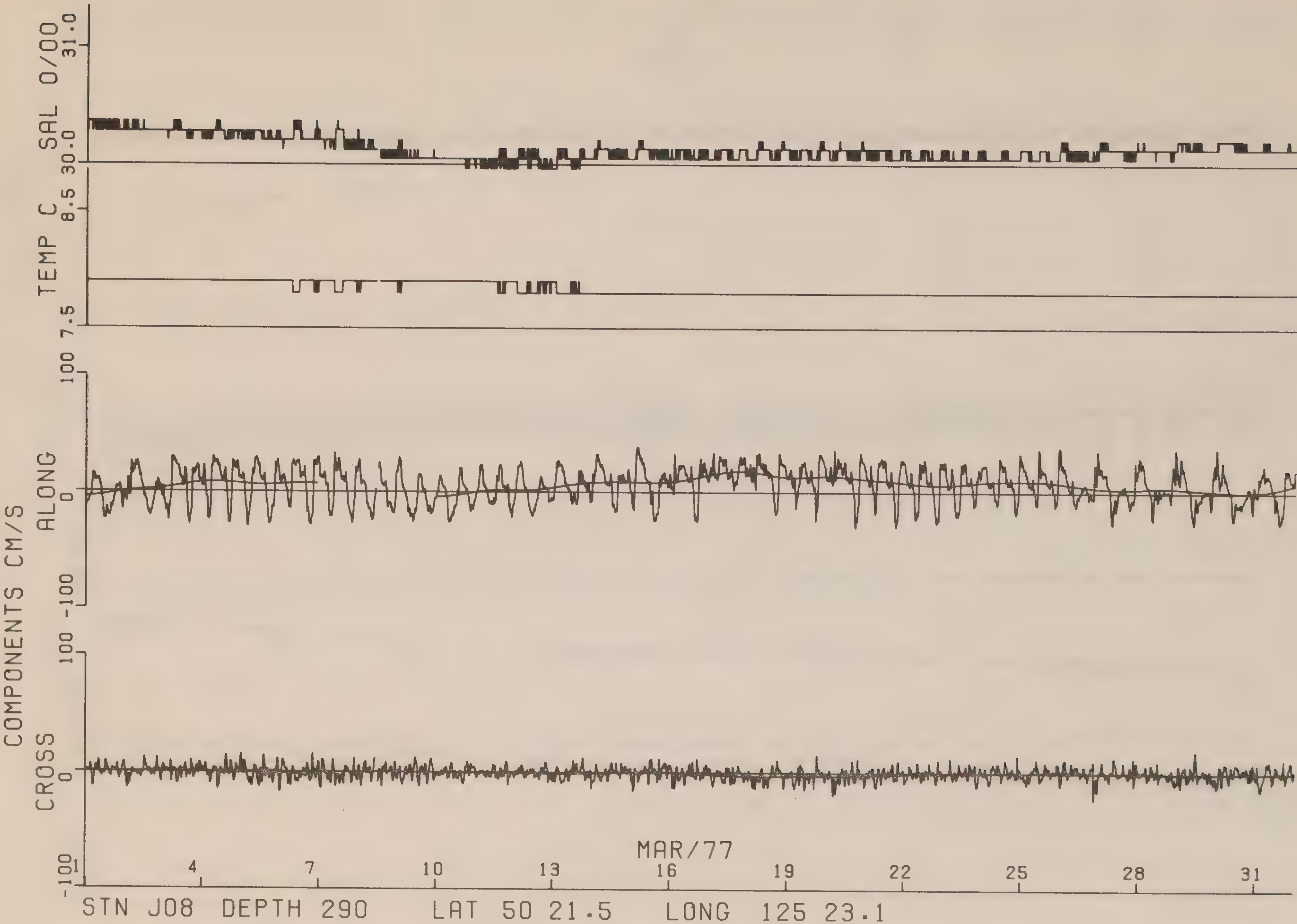


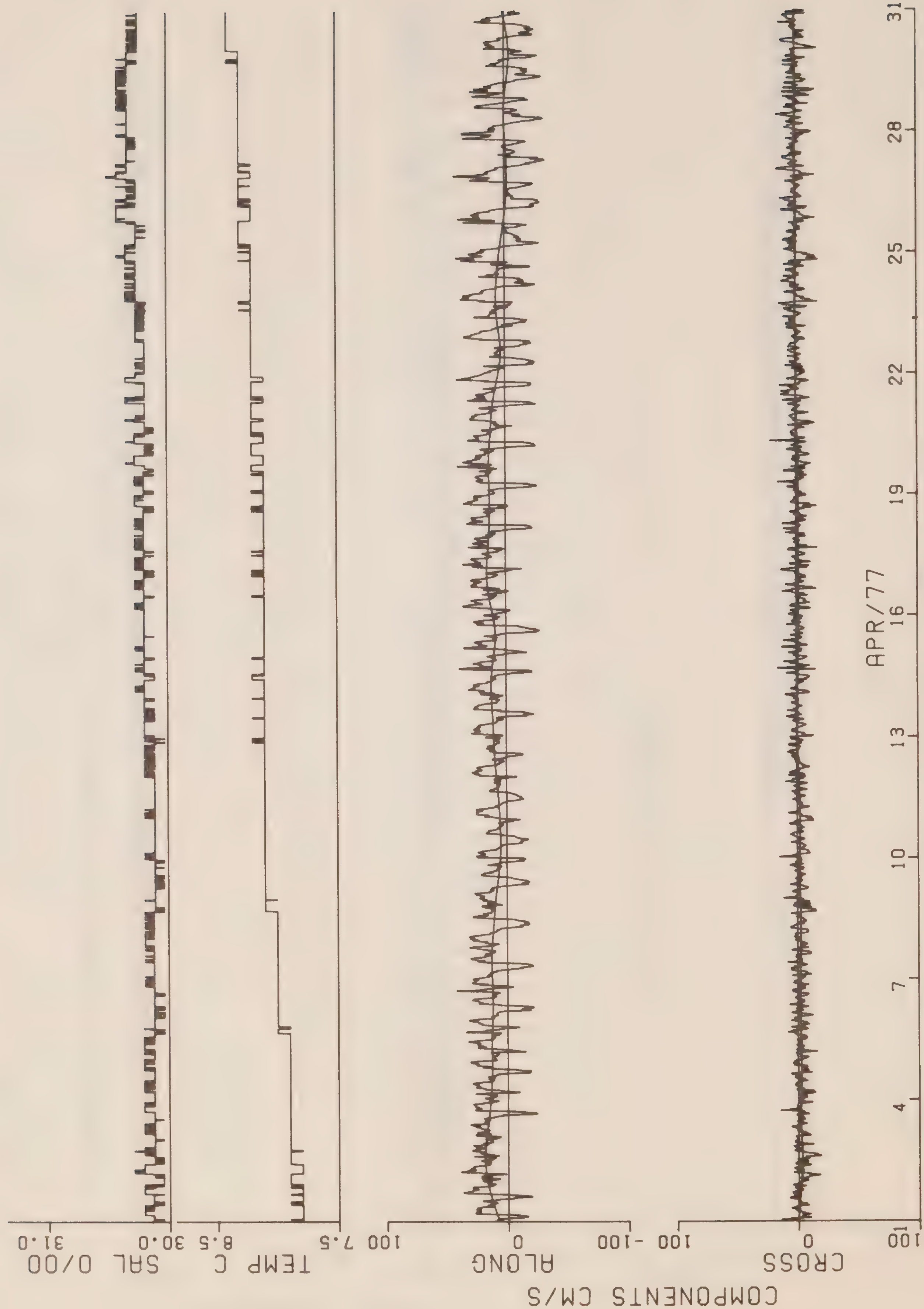
TEMP C
8.5
7.5
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
4
7
10
13
16
19
22
25
28
31
MAR/77
STN J07 DEPTH 177 LAT 50 18.7 LONG 125 25.7

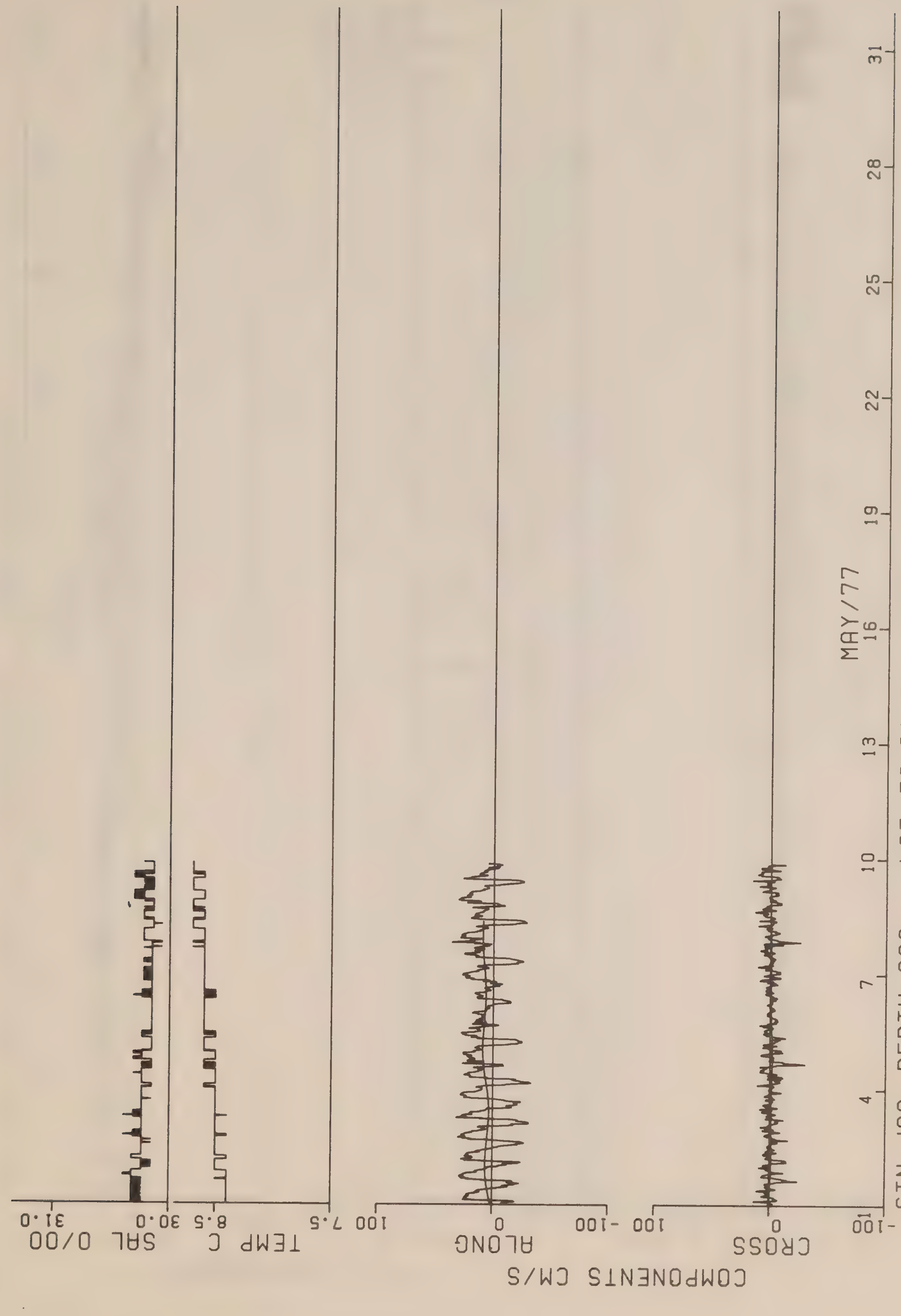

STN J07 DEPTH 177 LAT 50 18.7 LONG 125 25.7
APR/77
1 4 7 10 13 16 19 22 25 28 31
TEMP C
7.5 8.5
COMPONENTS CM/S
ALONG
100 0 -100
CROSS
100 0 -100

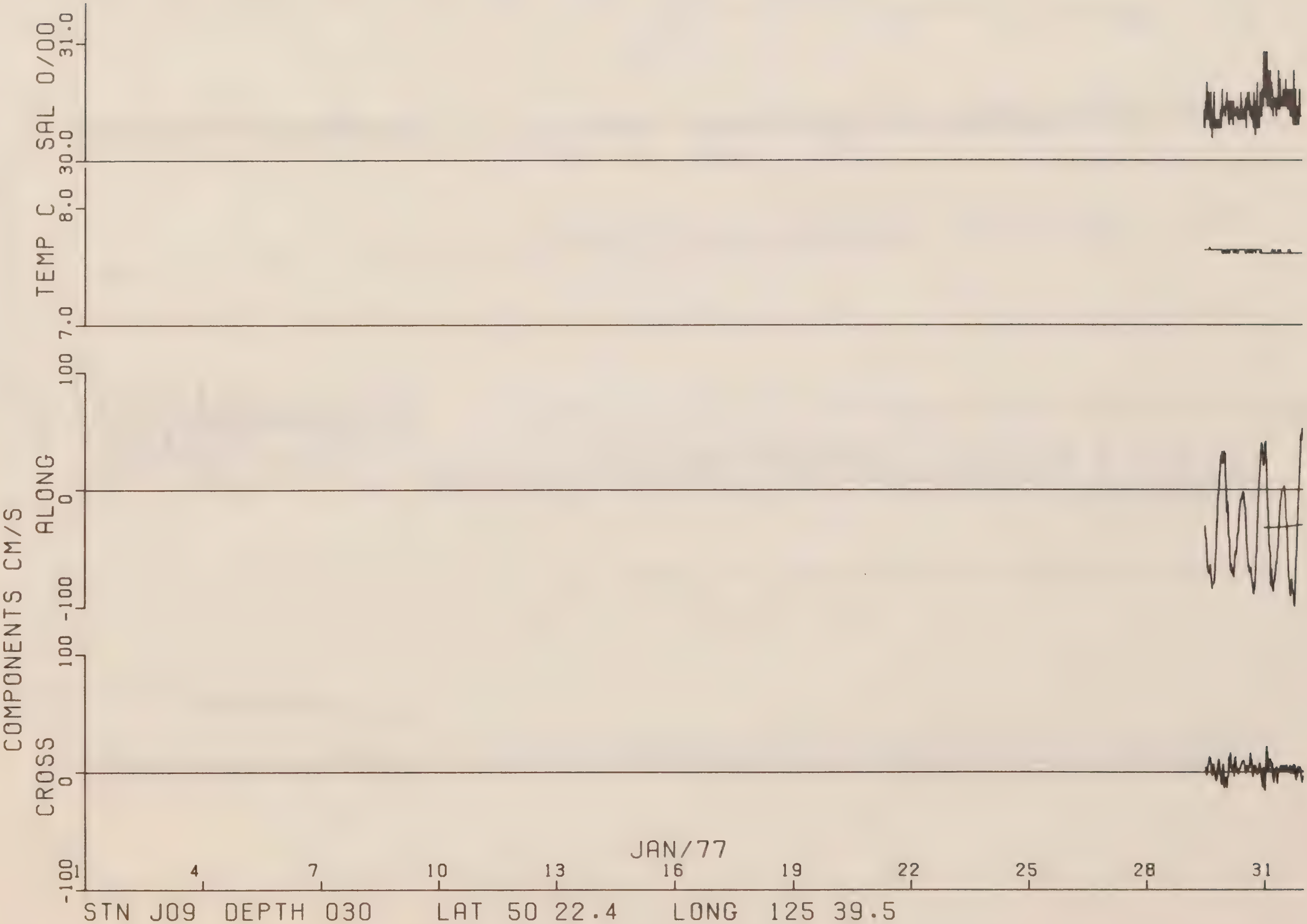

STN J07 DEPTH 177 LAT 50 18.7 LONG 125 25.7
MAY/77
1 4 7 10 13 16 19 22 25 28 31
TEMP C
8.5 7.5
COMPONENTS CM/S
ALONG
100 0 -100
CROSS
100 0 -100

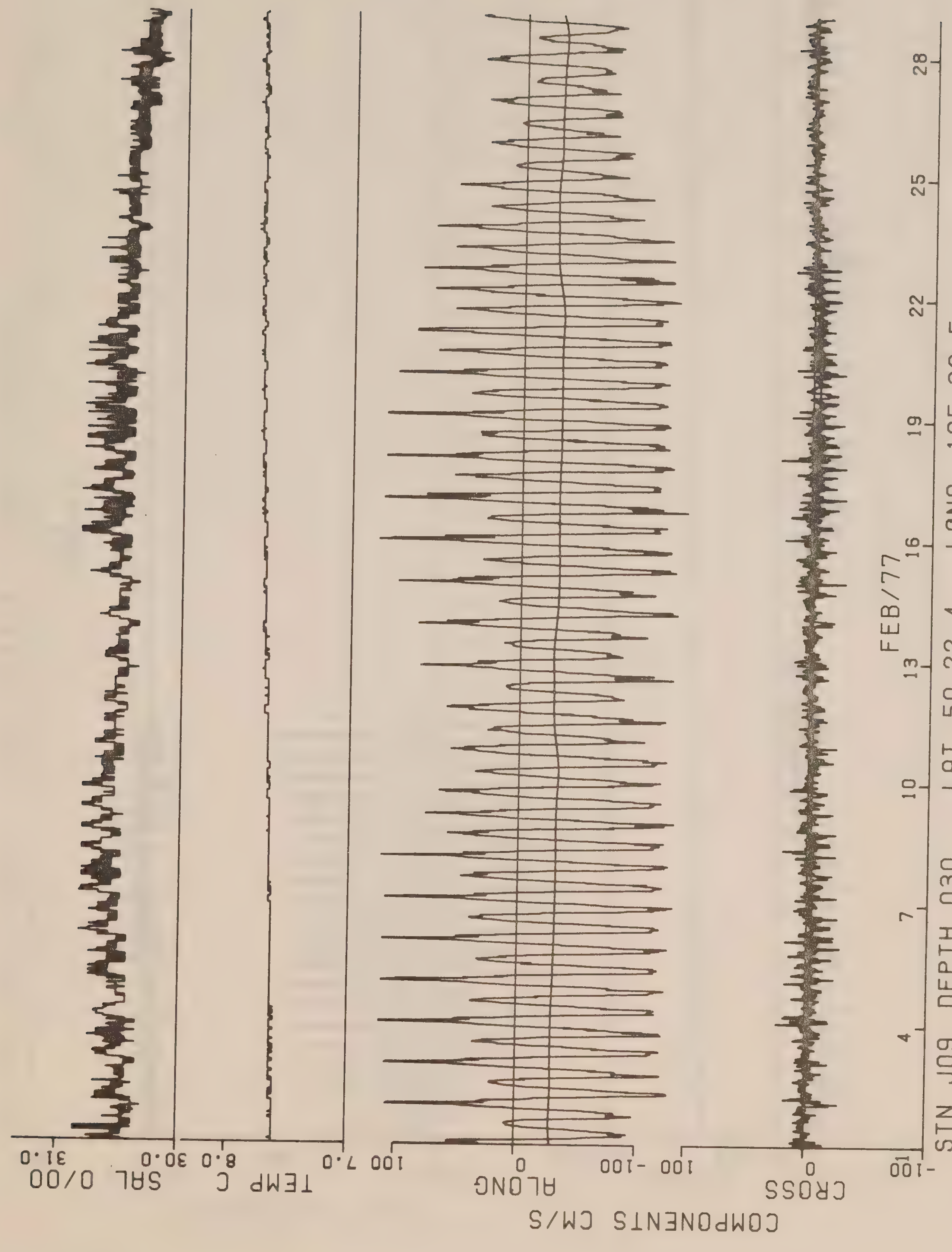

SAL O/OO
31.0
30.0
TEMP C
8.5
7.5
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
4
7
10
13
16
19
22
25
28
FEB/77
STN J08 DEPTH 290 LAT 50 21.5 LONG 125 23.1


SAL O/OO
31.0
30.0
TEMP C
8.5
7.5
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
MAR/77
1
4
7
10
13
16
19
22
25
28
31
STN J08 DEPTH 290 LAT 50 21.5 LONG 125 23.1


STN J08 DEPTH 290 LAT 50 21.5 LONG 125 23.1
APR/77
1 4 7 10 13 16 19 22 25 28 31
SAL O/OO
31.0 30.0
TEMP C
8.5 7.5
ALONG
100 0 -100
CROSS
100 0 -100
COMPONENTS CM/S


SAL O/OO
31.0
30.0
TEMP C
8.5
7.5
100
ALONG
0
-100
100
CROSS
0
-100
COMPONENTS CM/S
4
7
10
13
16
19
22
25
28
31
MAY/77
STN J08 DEPTH 290 LAT 50 21.5 LONG 125 23.1


SAL O/OO
31.0
30.0
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
JAN/77
1
4
7
10
13
16
19
22
25
28
31
STN J09 DEPTH 030 LAT 50 22.4 LONG 125 39.5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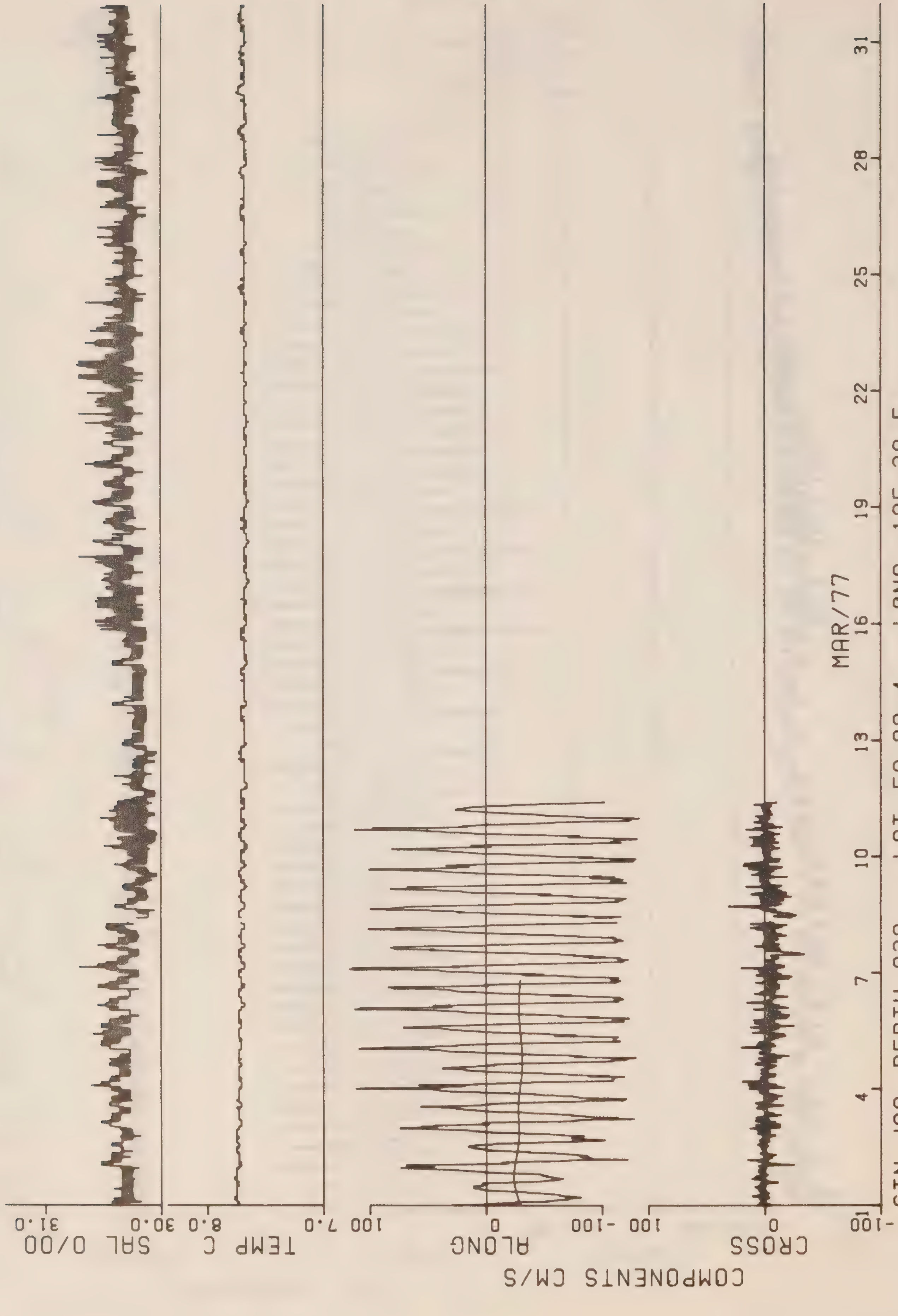
31.0
30.0
TEMP C
8.0
7.0
100
0
-100
ALONG
100
0
-100
CROSS
COMPONENTS CM/S
4
7
10
13
16
19
22
25
28
FEB/77
STN J09 DEPTH 030 LAT 50 22.4 LONG 125 39.5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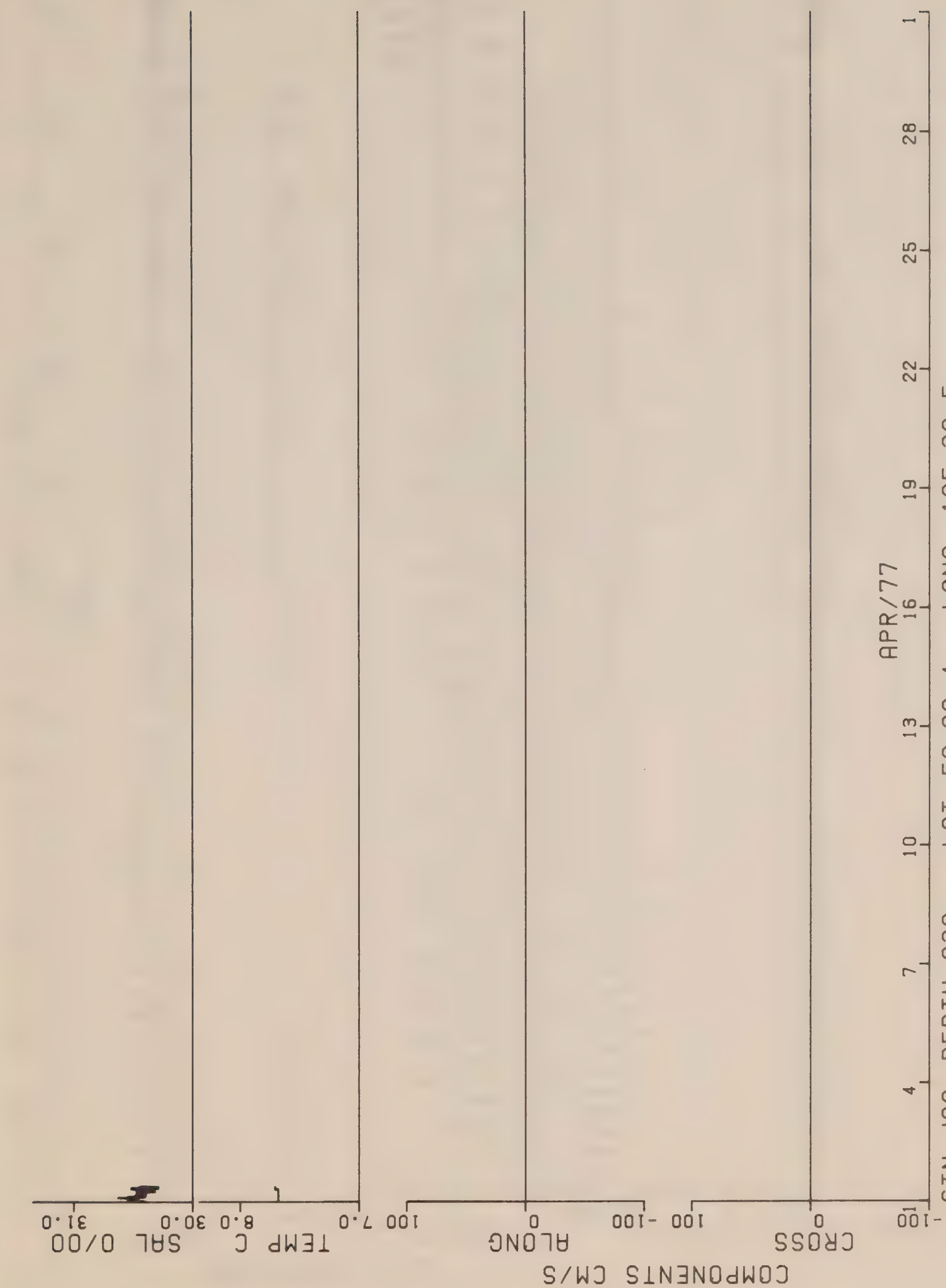
30.0
TEMP C
8.0
7.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
1
4
7
10
13
16
19
22
25
28
31
MAR/77
STN J09 DEPTH 030 LAT 50 22.4 LONG 125 39.5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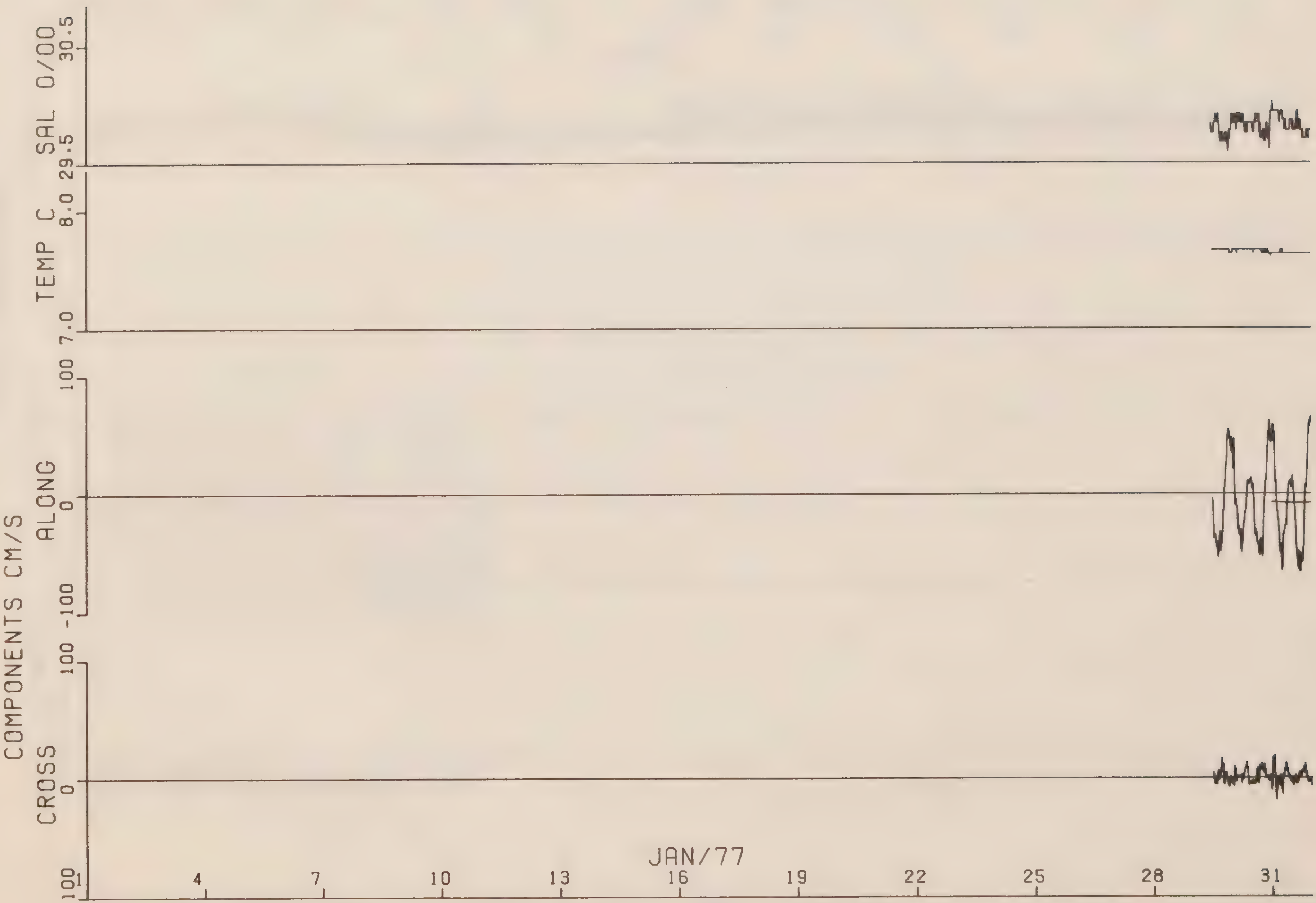
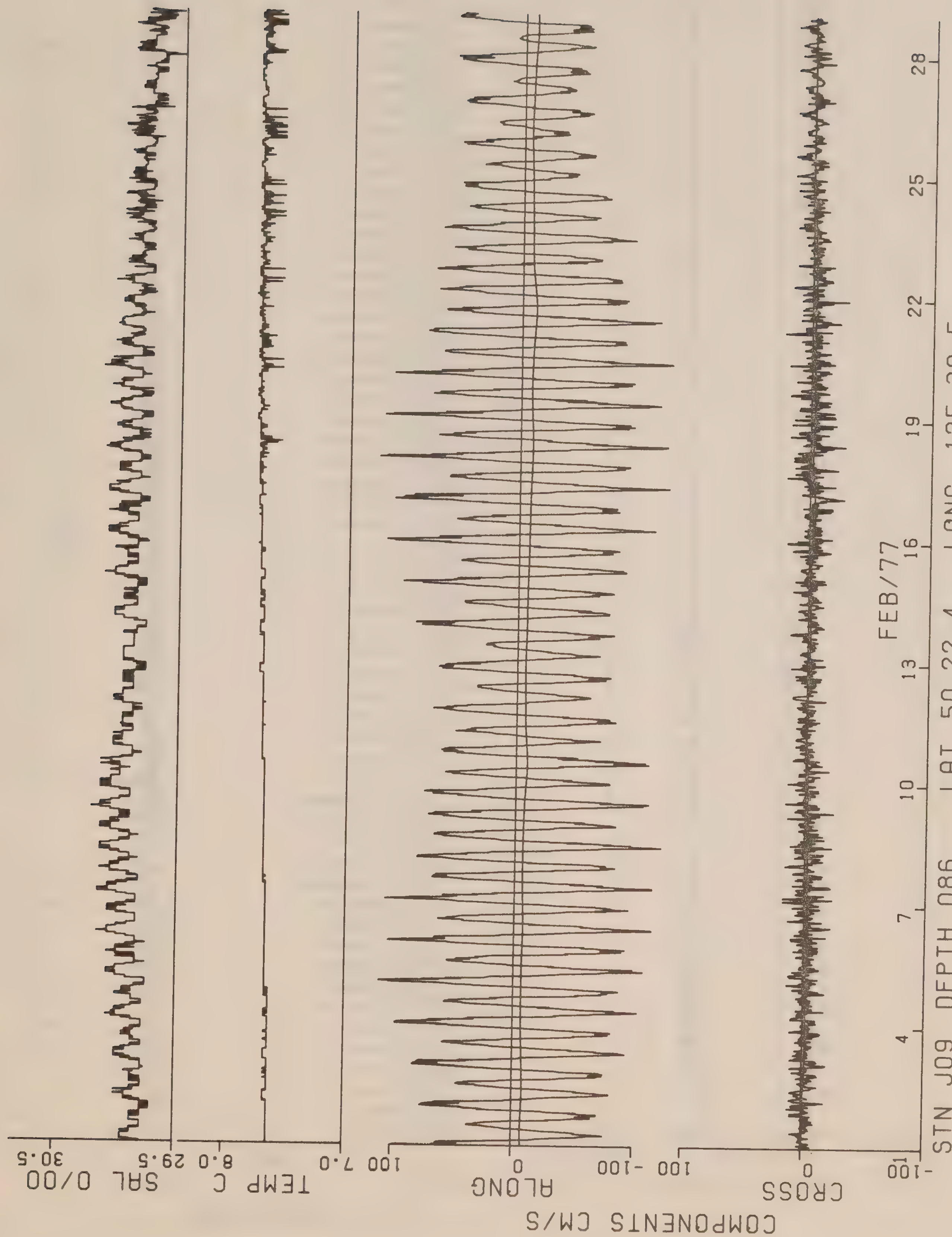
APR/77
1 4 7 10 13 16 19 22 25 28 1
SAL O/OO
30.0 31.0
TEMP C
7.0 8.0
ALONG
-100 0 100
CROSS
-100 0 100
COMPONENTS CM/S




STN J09 DEPTH 086 LAT 50 22.4 LONG 125 39.5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29.5
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
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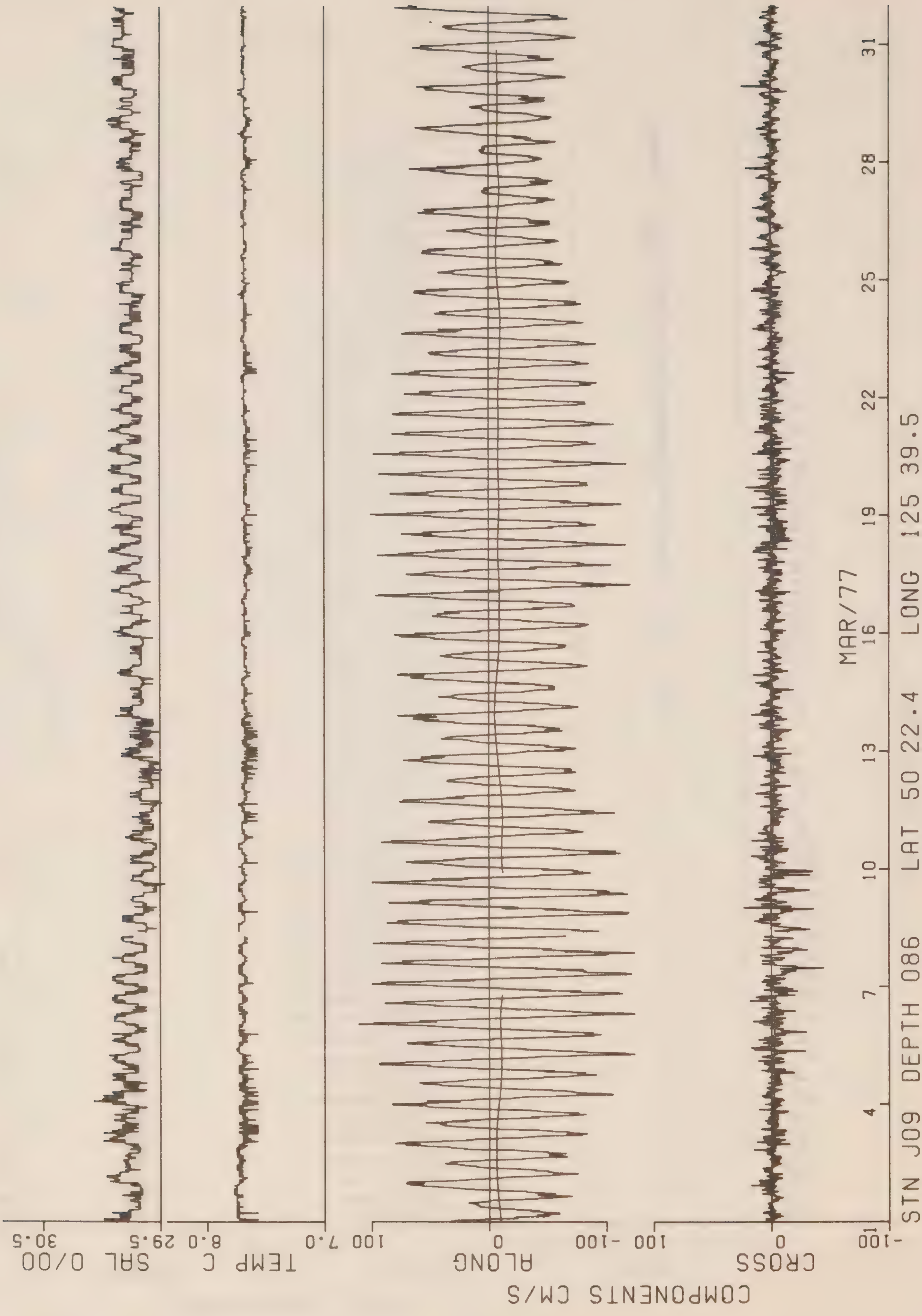
7
10
13
16
19
22
25
28
FEB/77
STN J09 DEPTH 086 LAT 50 22.4 LONG 125 39.5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TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
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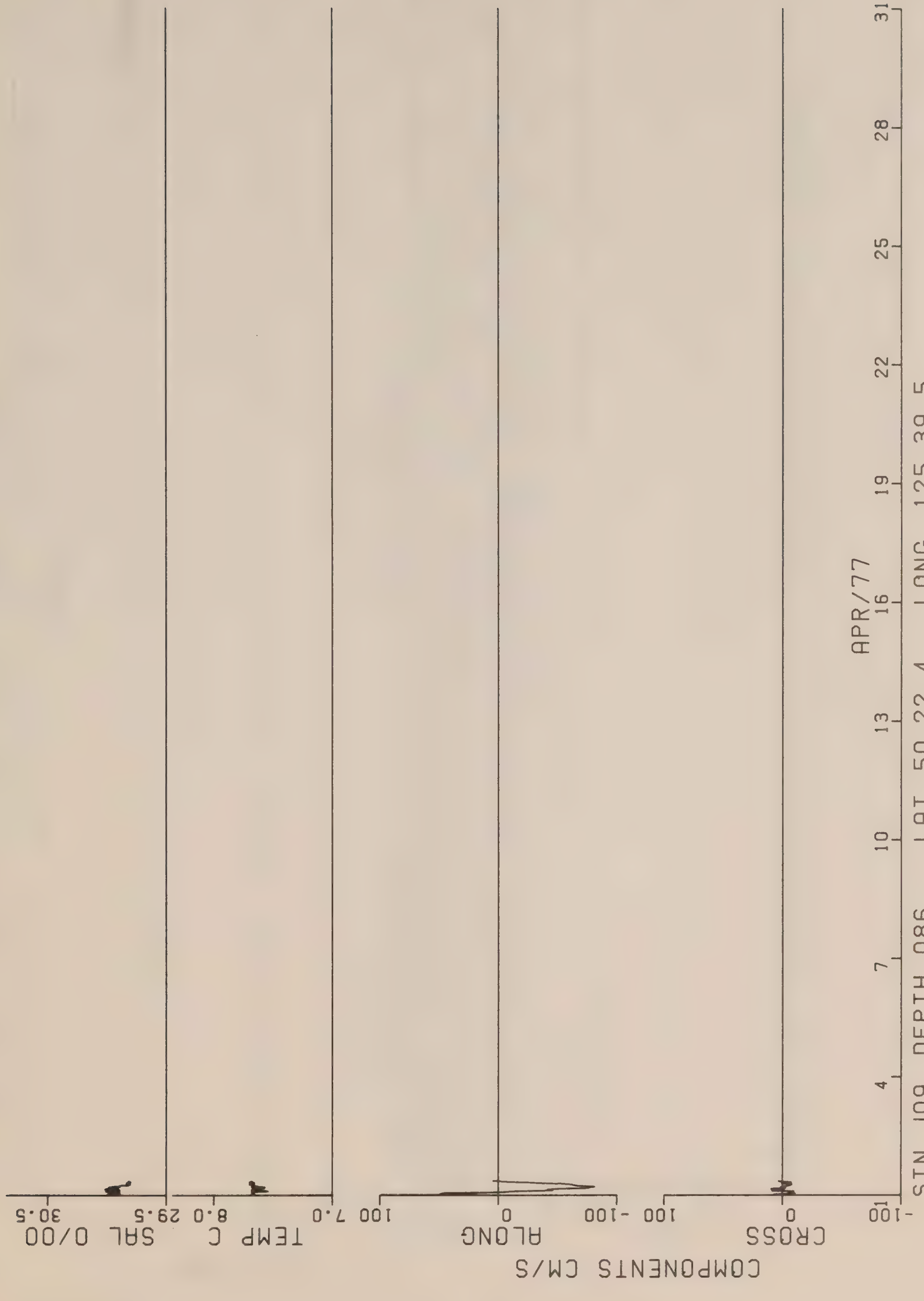
10
13
16
19
22
25
28
31
MAR/77
STN J09 DEPTH 086 LAT 50 22.4 LONG 125 39.5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TEMP C
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7.0
ALONG
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-100
CROSS
100
0
-100
COMPONENTS CM/S
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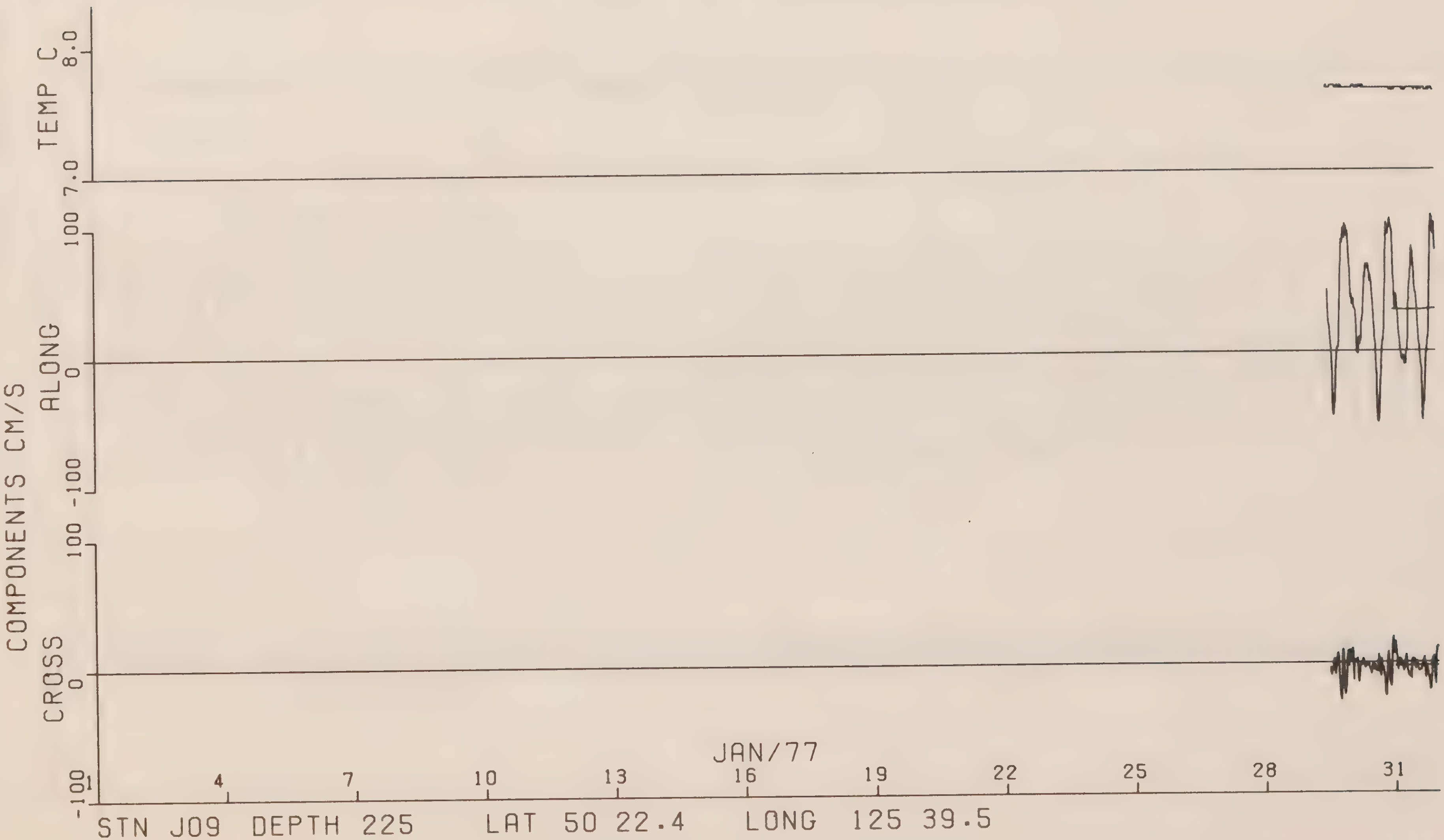
10
13
16
19
22
25
28
31
APR/77
STN JO9 DEPTH 086 LAT 50 22.4 LONG 125 39.5



TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
JAN/77
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10
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19
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28
31
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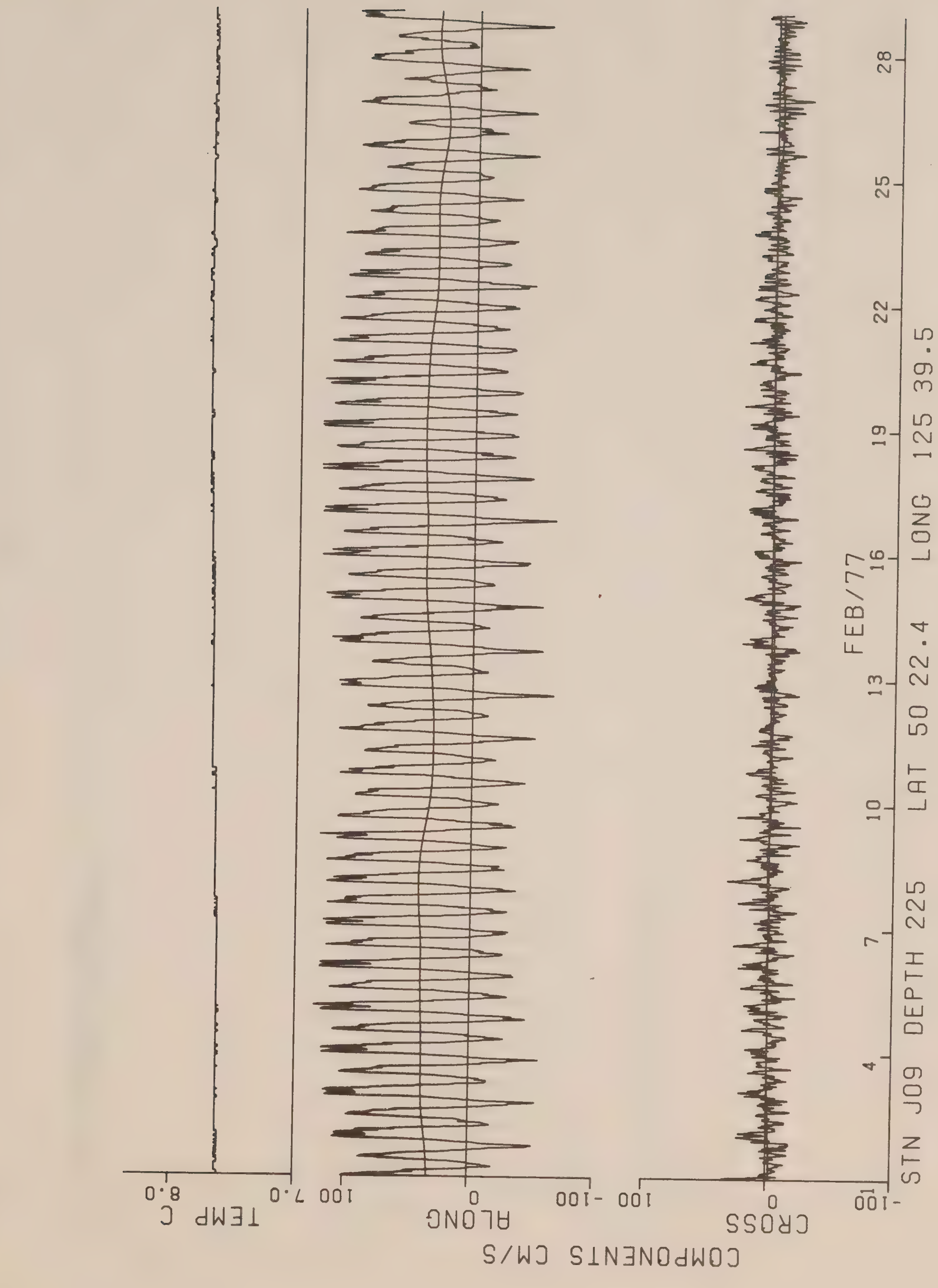
STN J09 DEPTH 225 LAT 50 22.4 LONG 125 39.5
FEB/77
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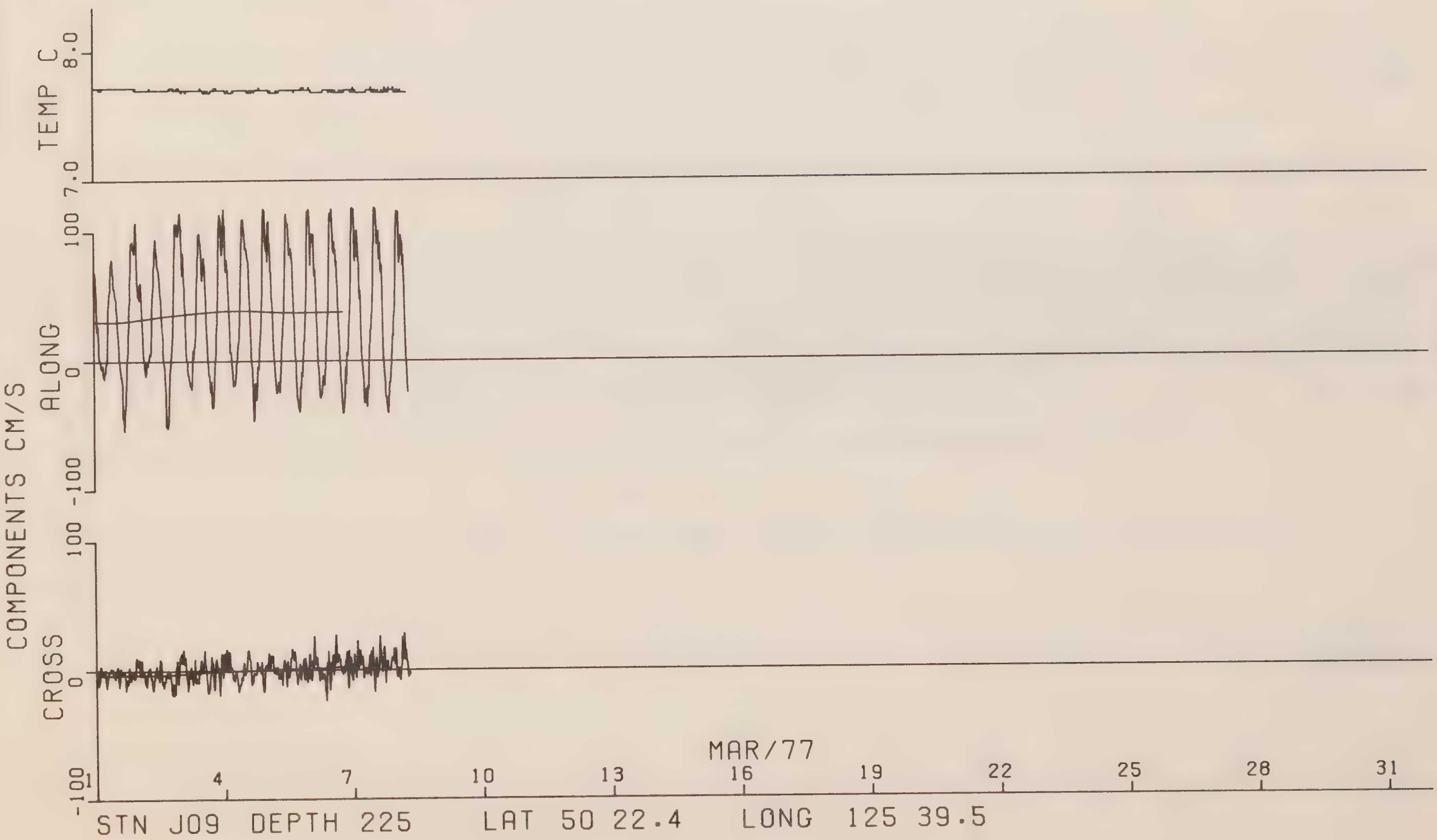
TEMP C
7.0 8.0
ALONG
100 0 -100
CROSS
100 0 -100
COMPONENTS CM/S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8.0
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ALONG
0
-100
COMPONENTS CM/S
100
CROSS
0
-100
MAR/77
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13
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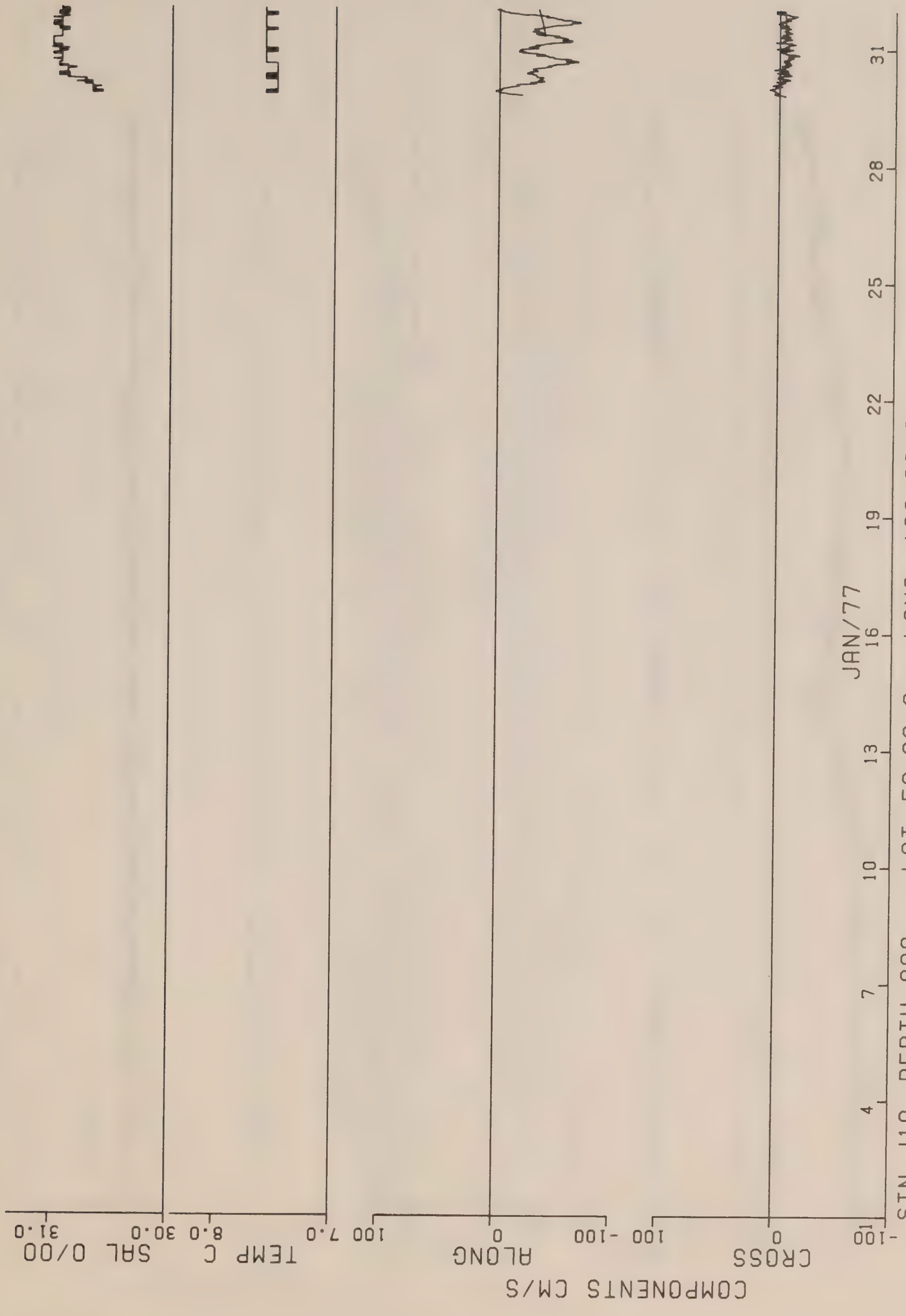
19
22
25
28
31
STN J09 DEPTH 225 LAT 50 22.4 LONG 125 39.5



STN J10 DEPTH 022 LAT 50 29.9 LONG 126 26.0
JAN/77
4
7
10
13
16
19
22
25
28
31
SAL O/OO
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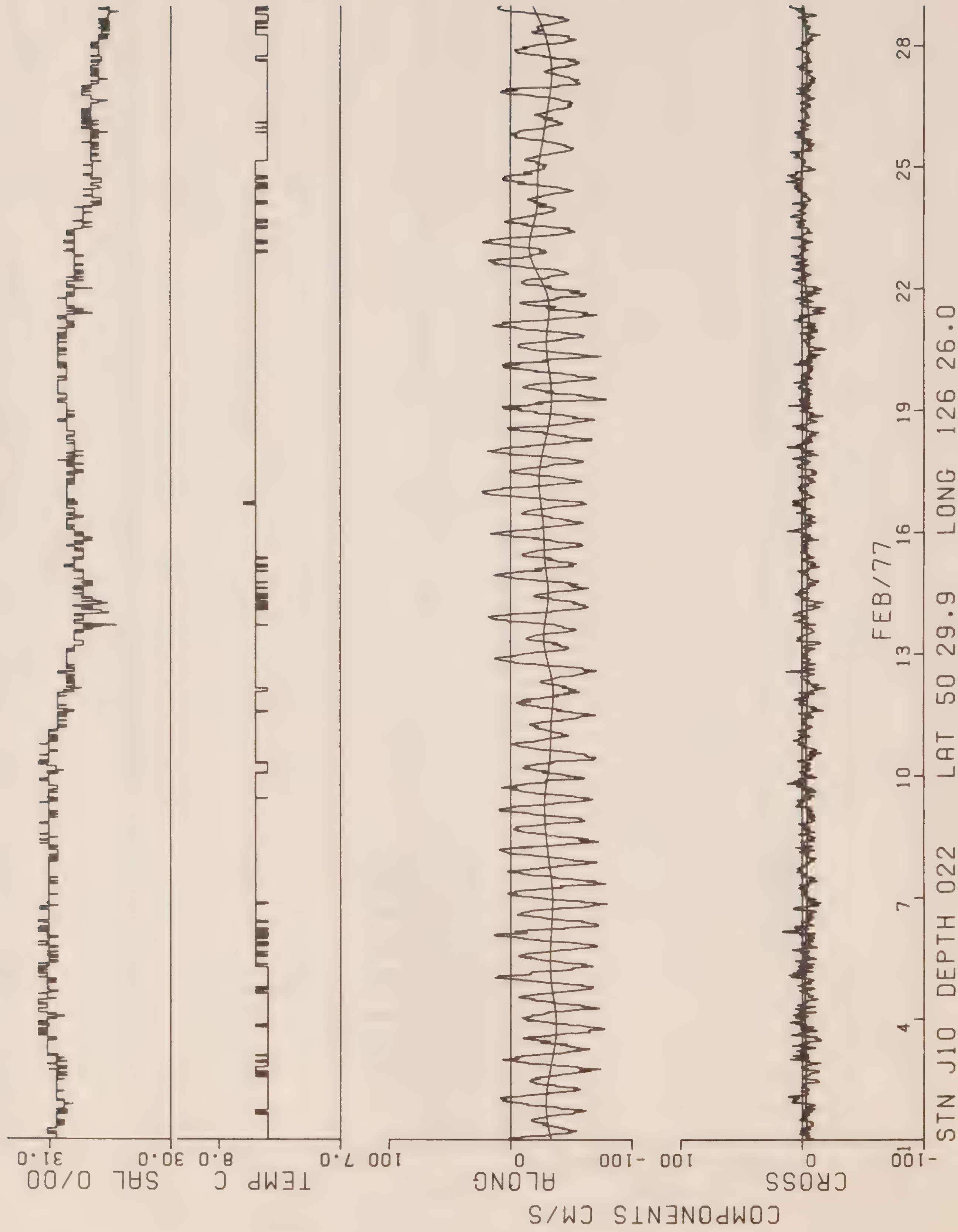
30.0
TEMP C
8.0
7.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S


SAL O/OO
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30.0
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
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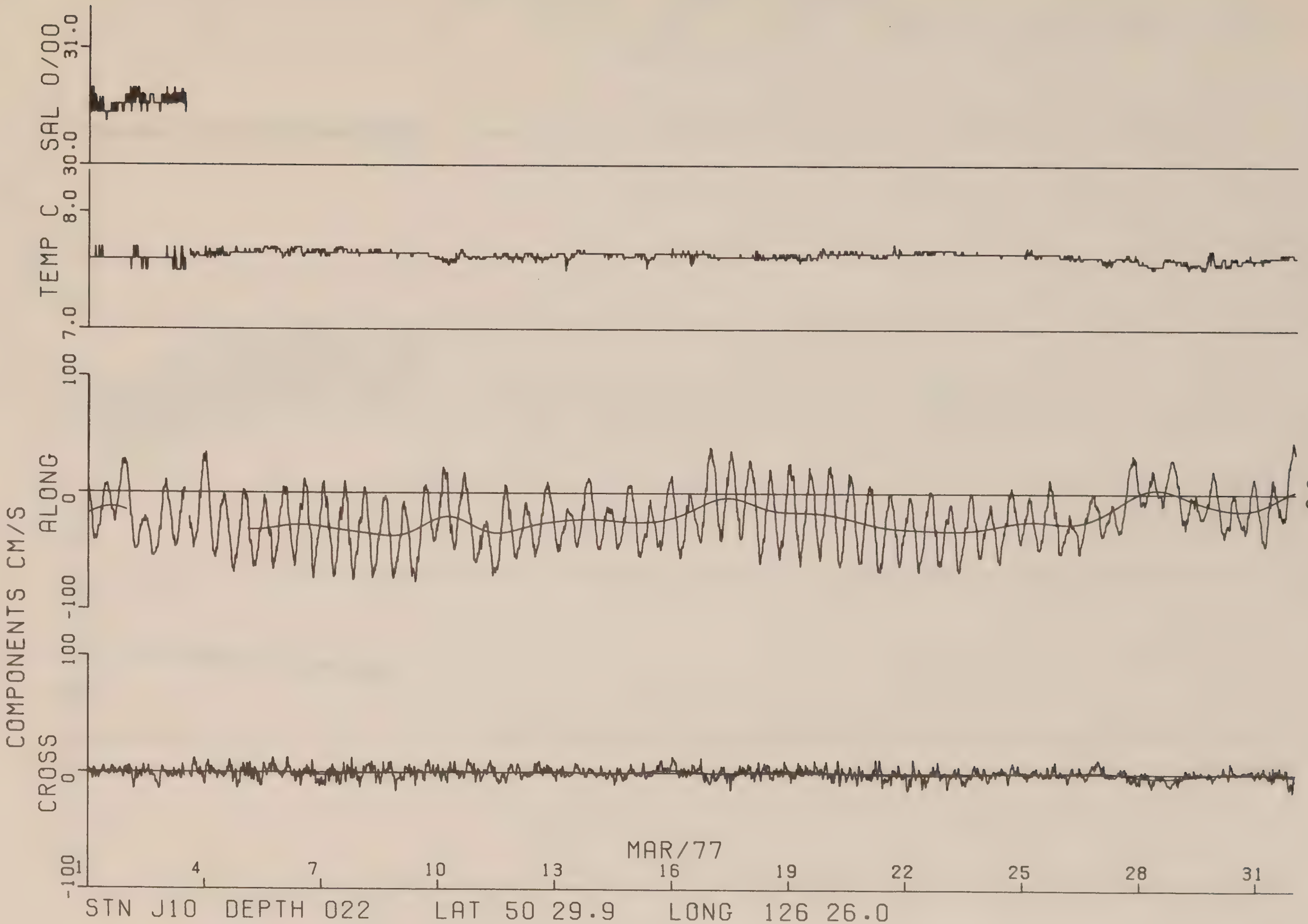
10
13
16
19
22
25
28
FEB/77
STN J10 DEPTH 022 LAT 50 29.9 LONG 126 26.0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30.0
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
83
CROSS
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0
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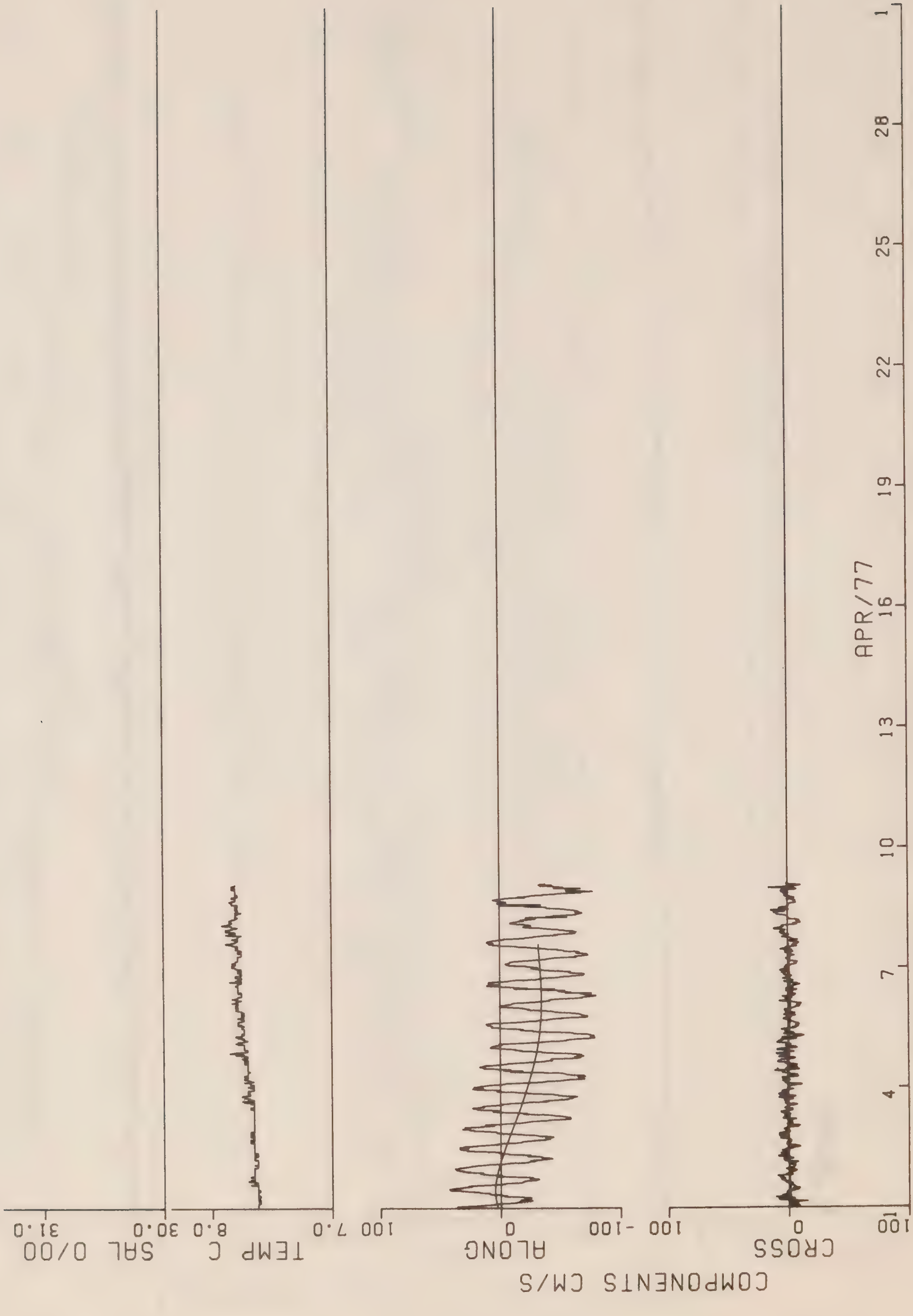
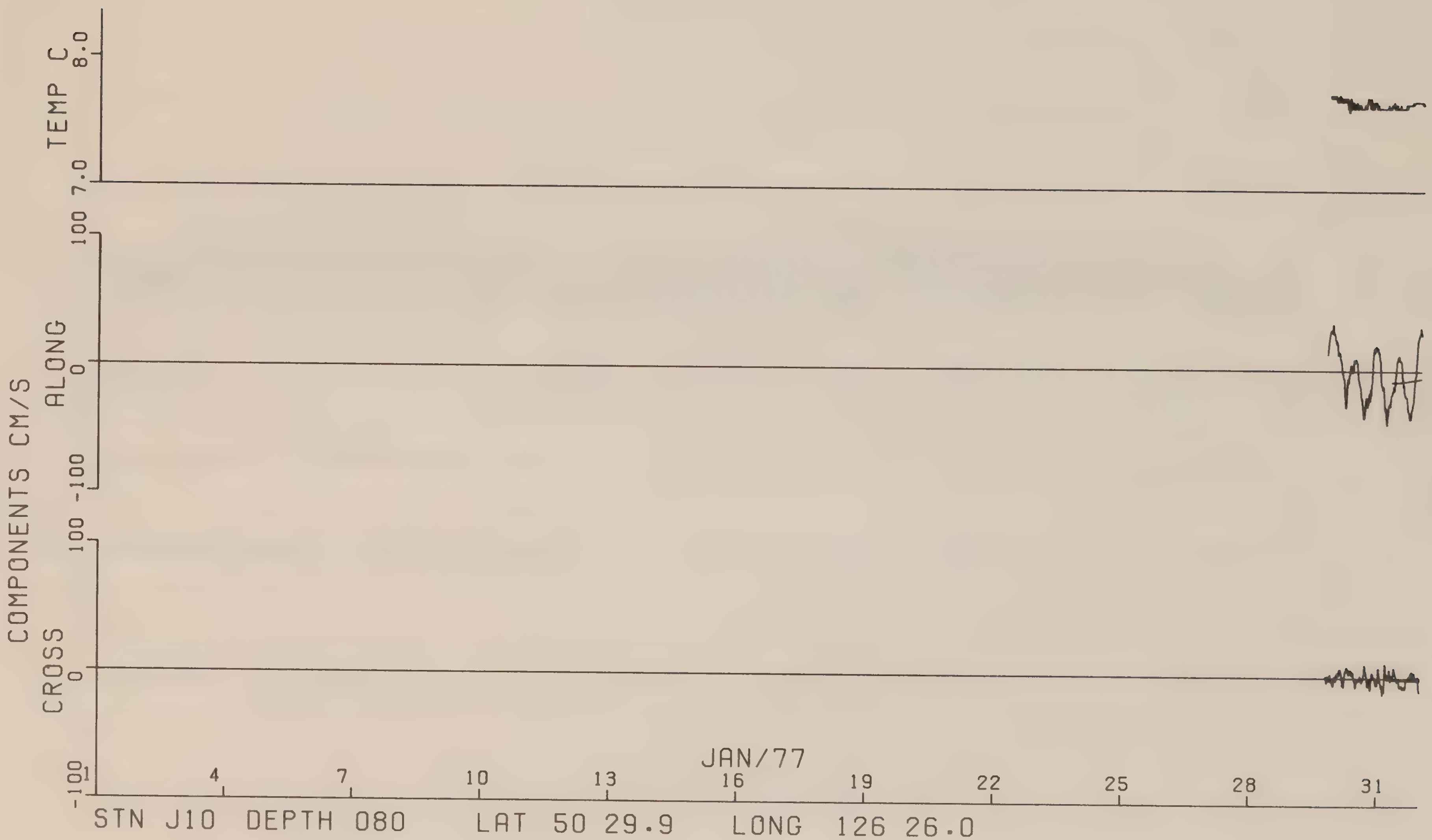
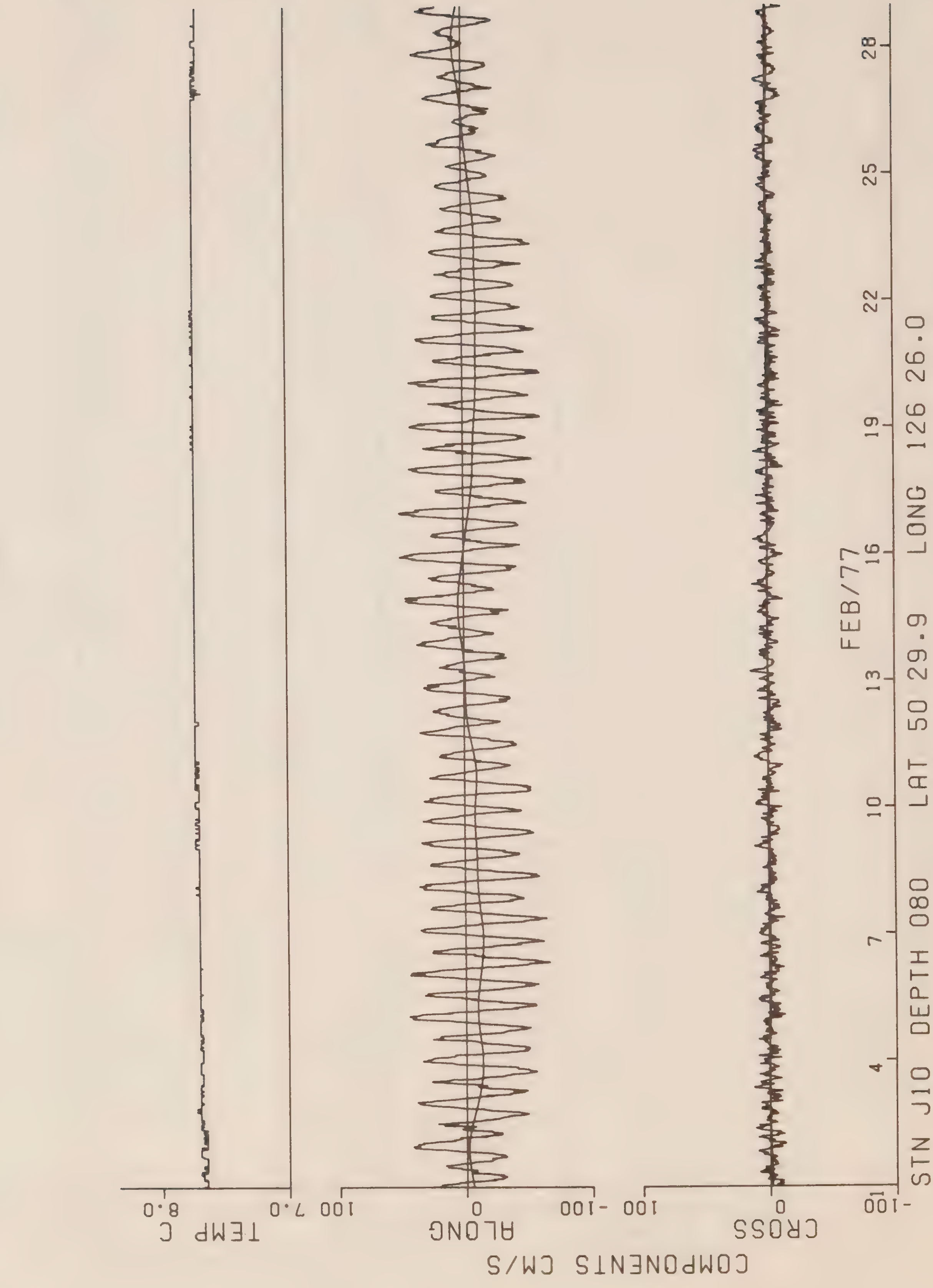
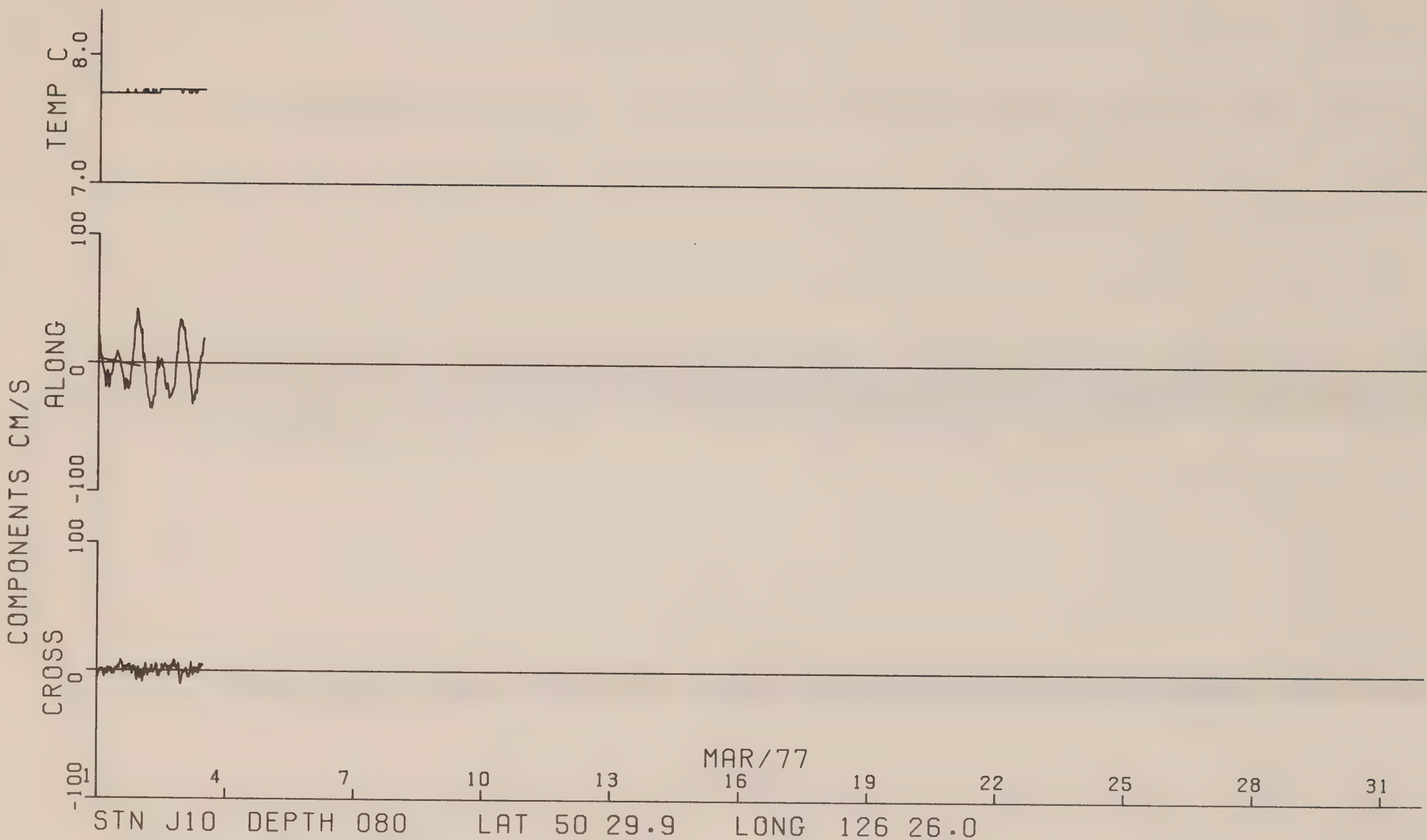

STN J10 DEPTH 022 LAT 50 29.9 LONG 126 26.0
APR/77
1 4 7 10 13 16 19 22 25 28 1
COMPONENTS CM/S
CROSS
100 0 -100
ALONG
100 0 -100
TEMP C
7.0 8.0
SAL O/OO
30.0 31.0



TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
85
CROSS
100
0
-100
JAN/77
4
7
10
13
16
19
22
25
28
31
STN J10 DEPTH 080 LAT 50 29.9 LONG 126 26.0



STN J10 DEPTH 080 LAT 50 29.9 LONG 126 26.0
FEB/77
4
7
10
13
16
19
22
25
28
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100


TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
4
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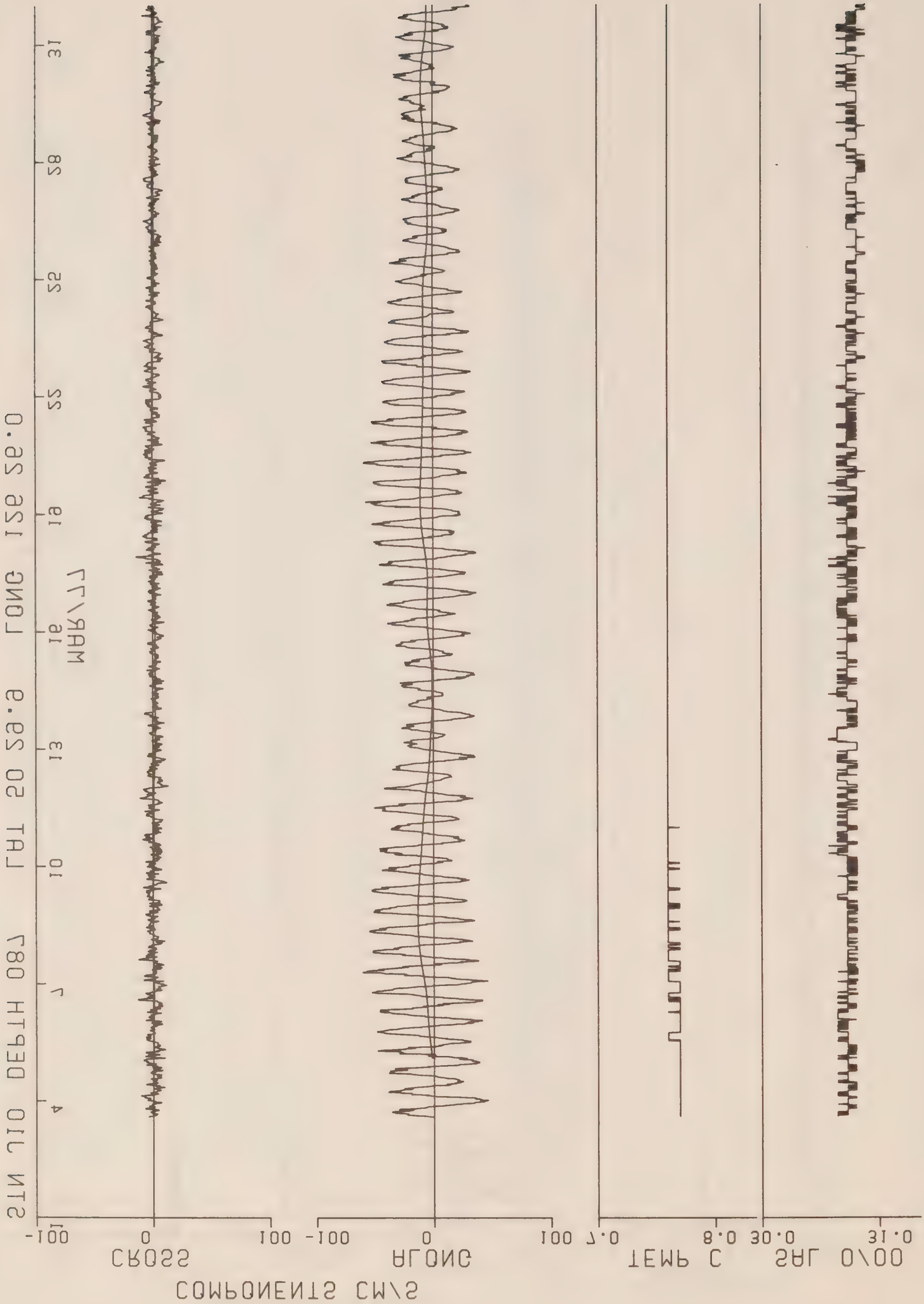
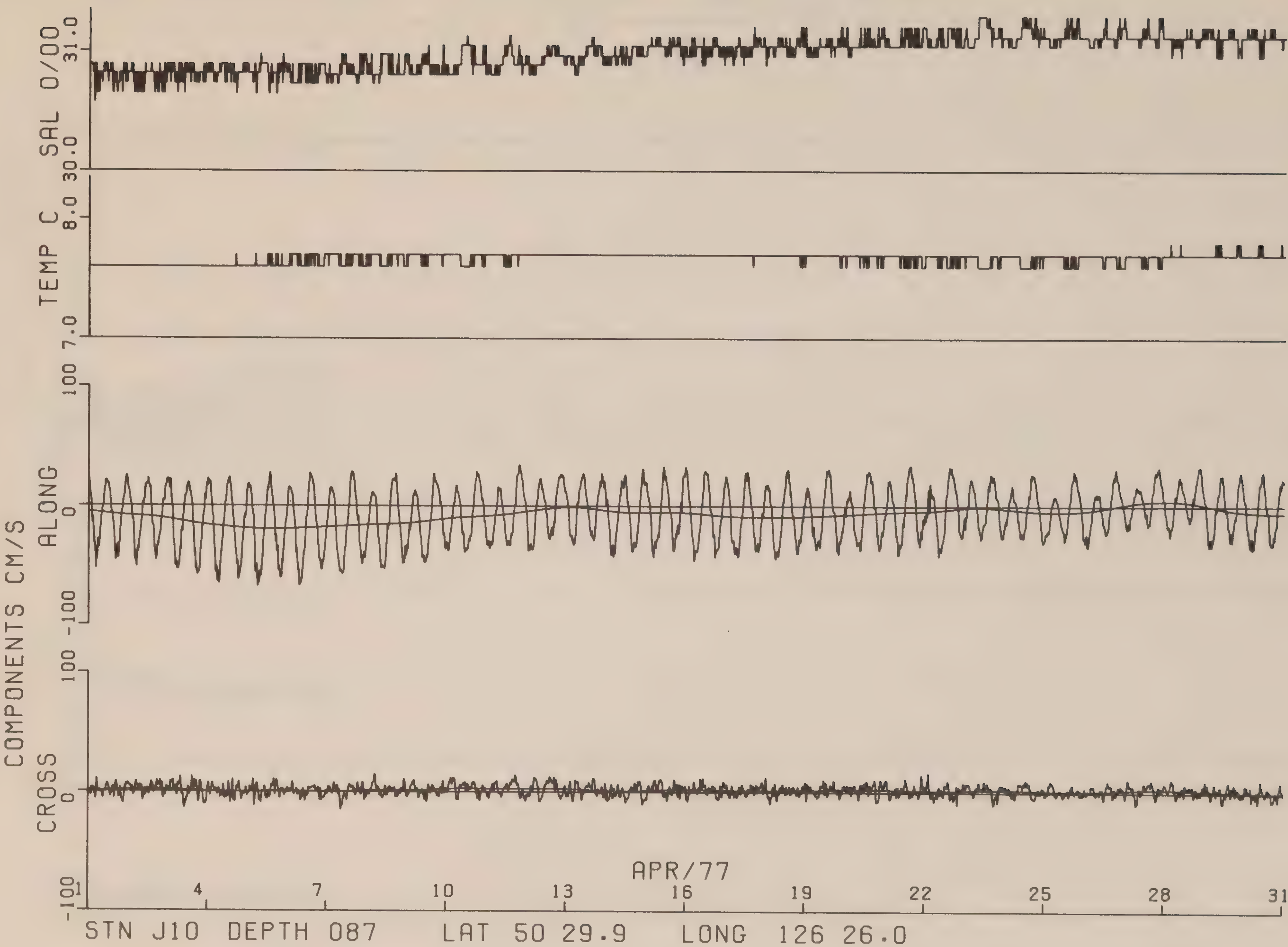
10
13
16
19
22
25
28
31
MAR/77
STN J10 DEPTH 080 LAT 50 29.9 LONG 126 26.0


CROSS
ALONG
COMPONENTS CM/S
TEMP C
SAL O/OO
MAR/77


SAL O/OO
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30.0
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
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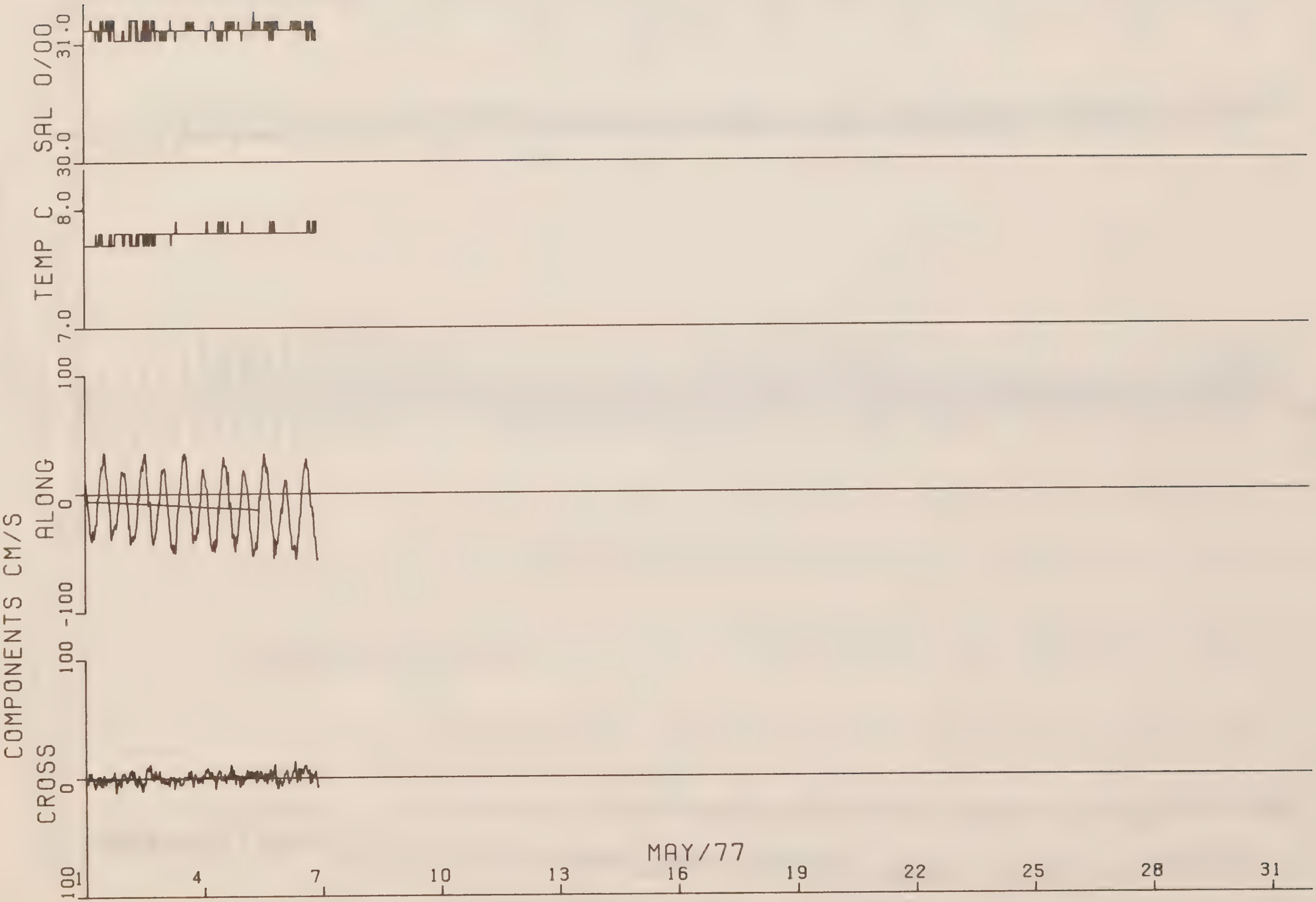
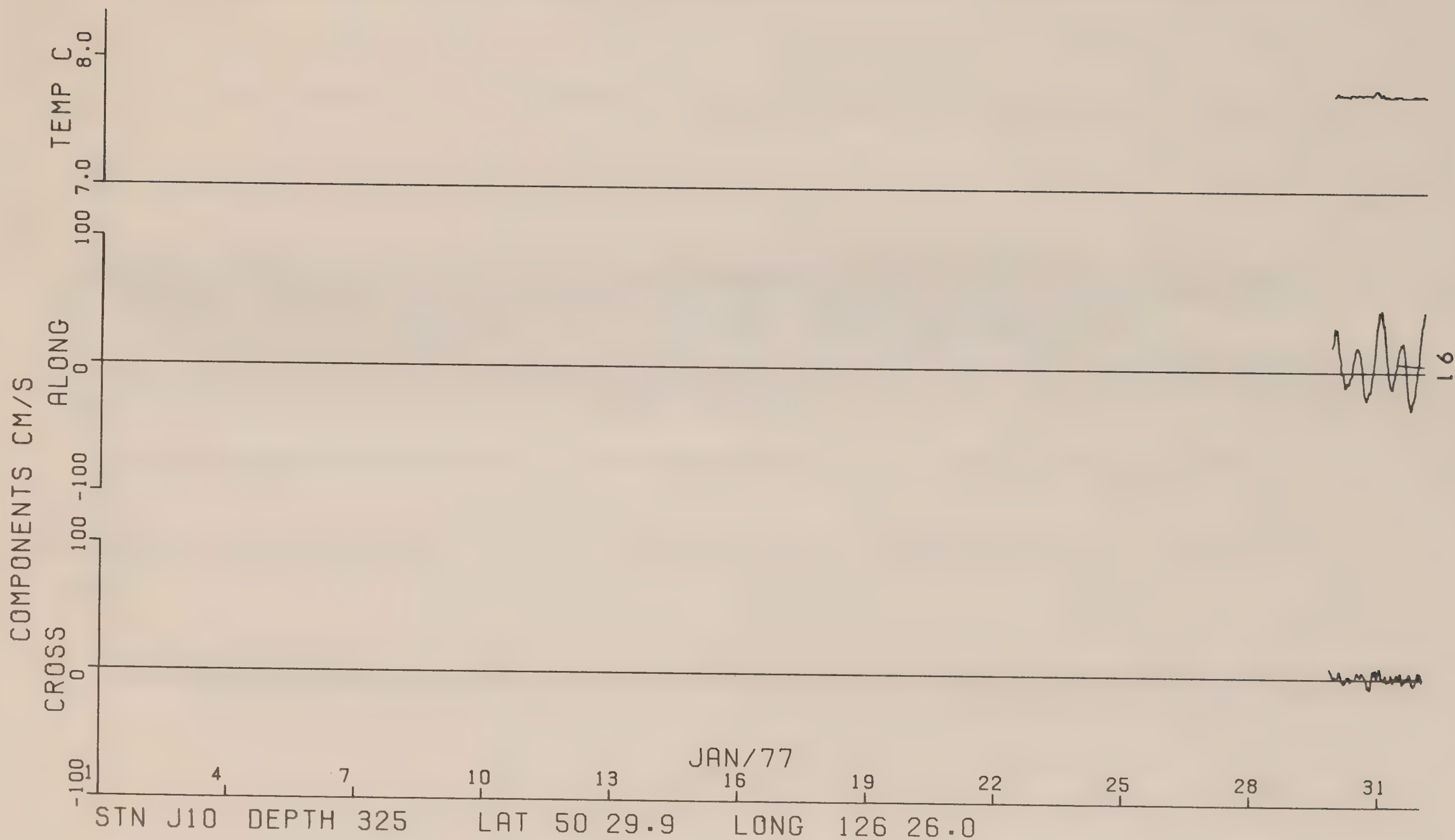
13
16
19
22
25
28
31
APR/77
STN J10 DEPTH 087 LAT 50 29.9 LONG 126 26.0




STN J10 DEPTH 087 LAT 50 29.9 LONG 126 26.0


TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
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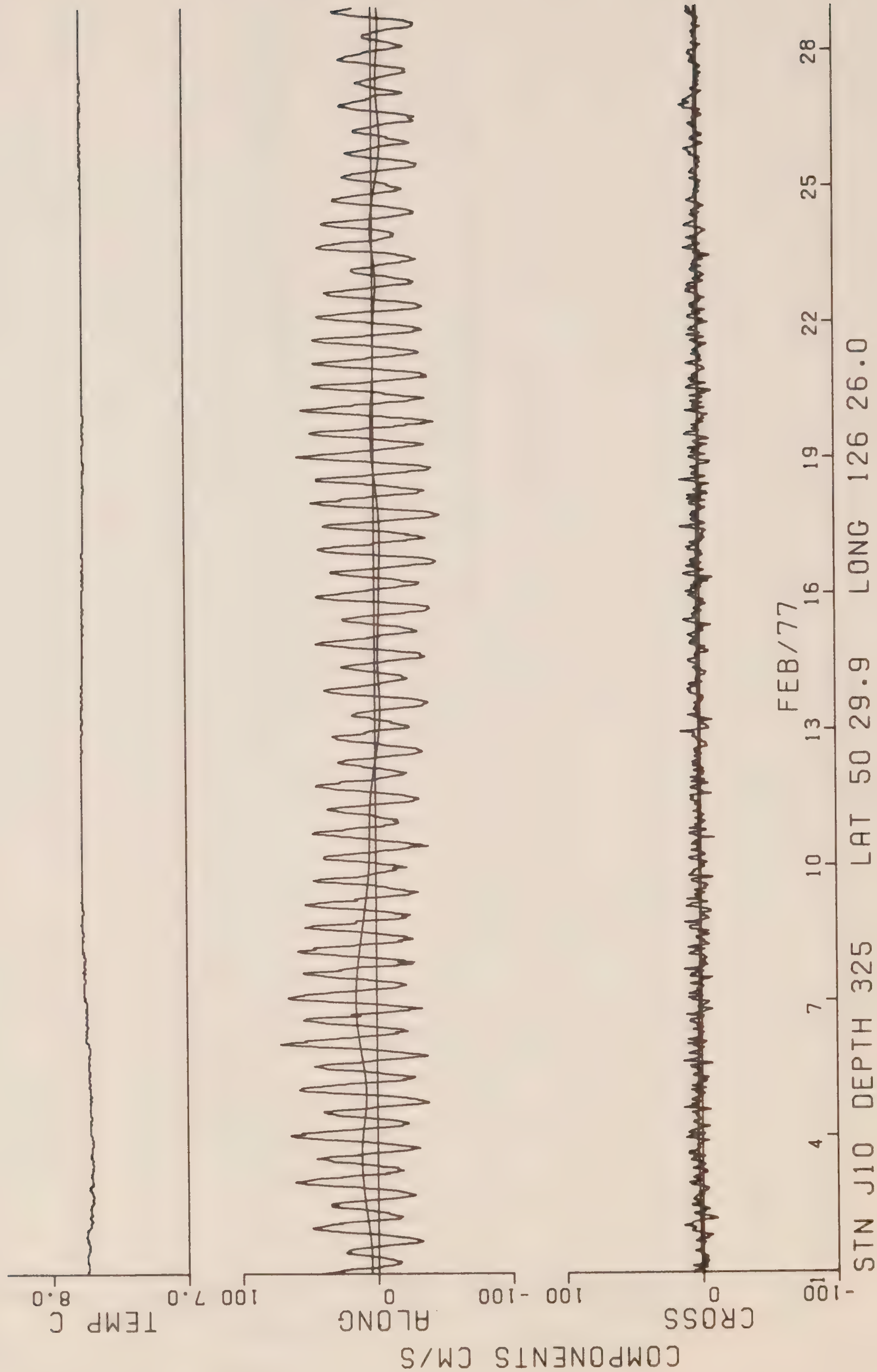
7
10
13
16
19
22
25
28
31
JAN/77
16
STN J10 DEPTH 325 LAT 50 29.9 LONG 126 26.0


STN J10 DEPTH 325 LAT 50 29.9 LONG 126 26.0
FEB/77
4
7
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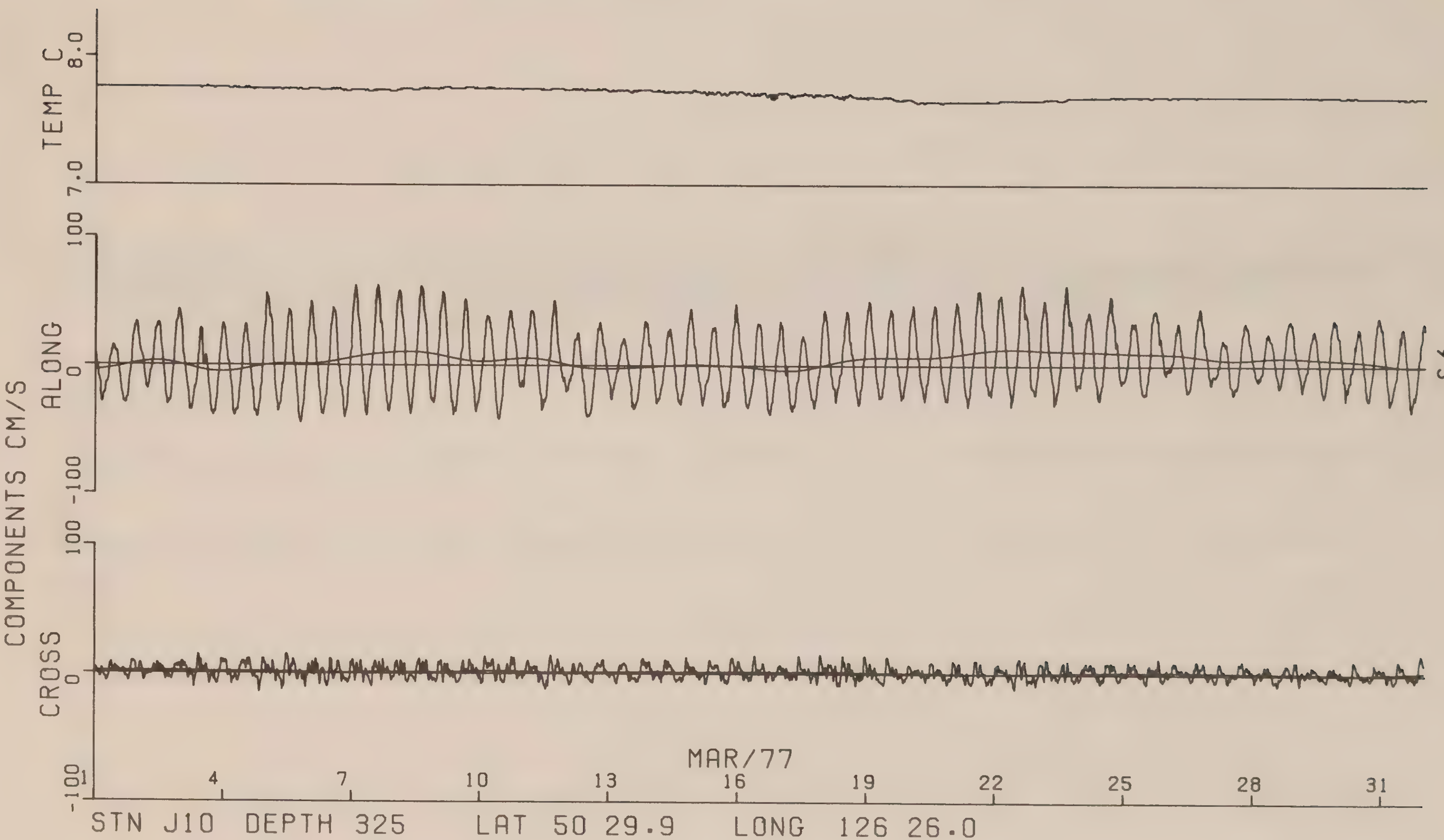
16
19
22
25
28
TEMP C
7.0
8.0
ALONG
CROSS
100
0
-100
COMPONENTS CM/S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7.0
COMPONENTS CM/S
ALONG
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0
-100
CROSS
100
0
-100
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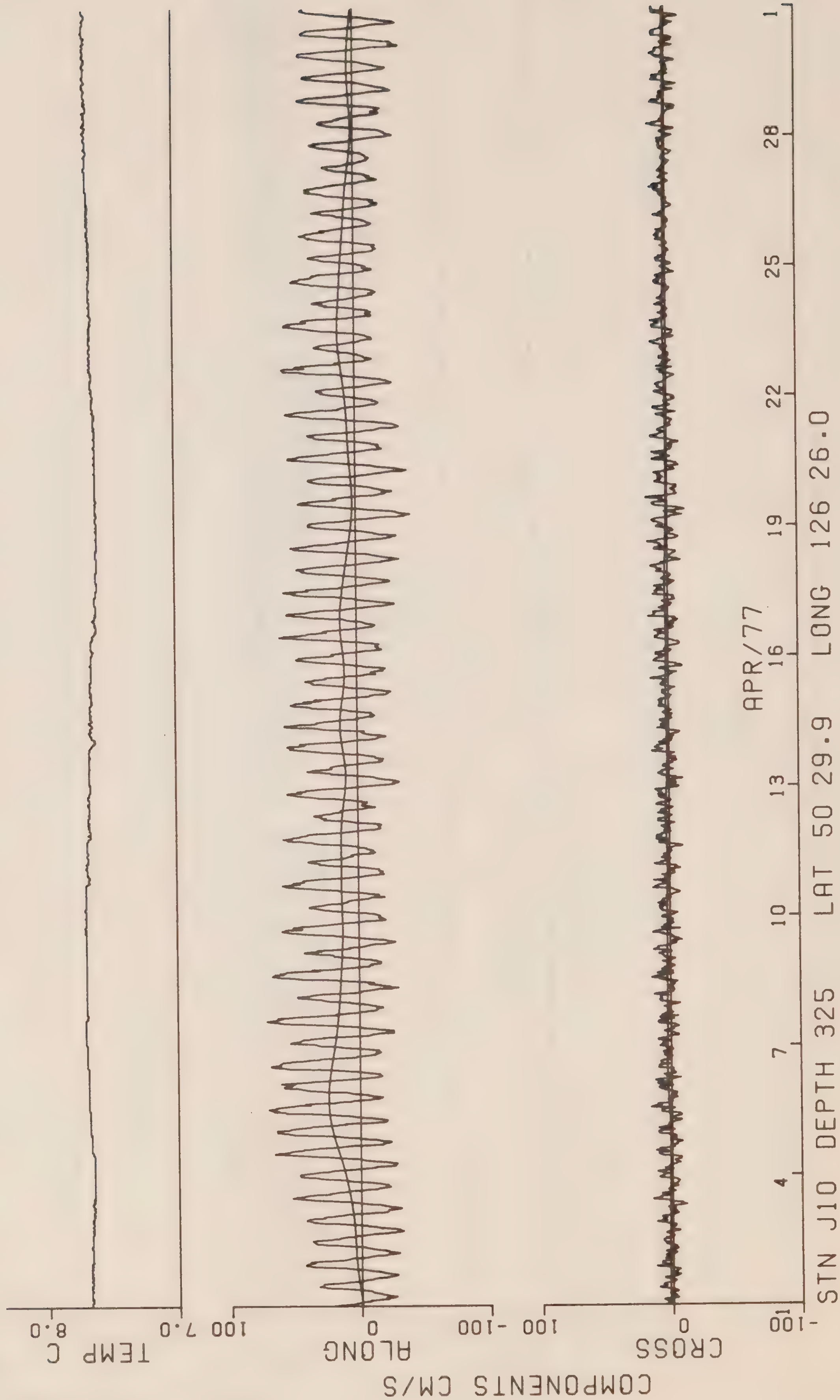
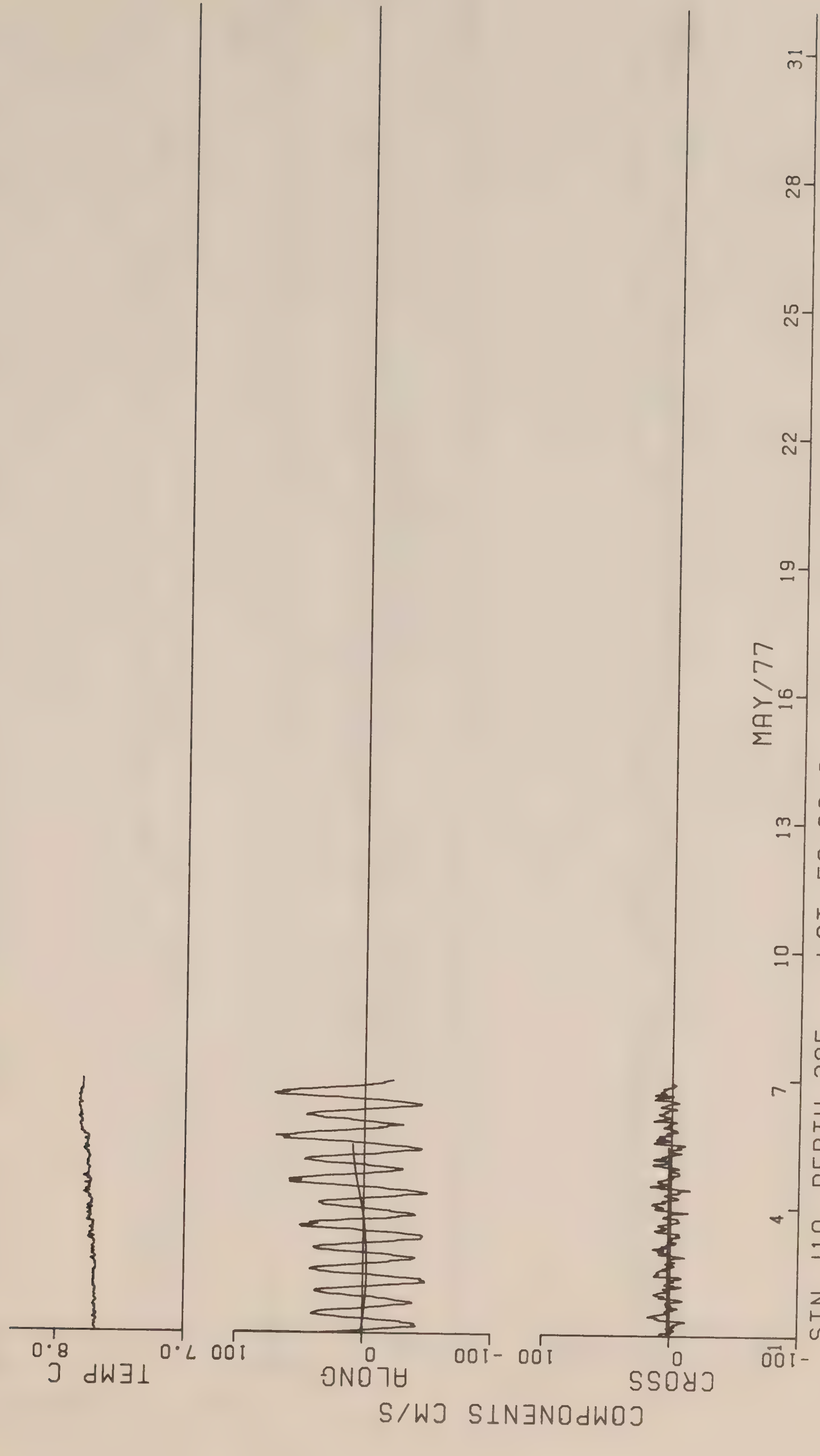
10
13
16
19
22
25
28
31
MAR/77
STN J10 DEPTH 325 LAT 50 29.9 LONG 126 26.0



STN J10 DEPTH 325 LAT 50 29.9 LONG 126 26.0
APR/77
1
4
7
10
13
16
19
22
25
28
1
TEMP C
7.0
8.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100



STN J10 DEPTH 325 LAT 50 29.9 LONG 126 26.0
MAY/77
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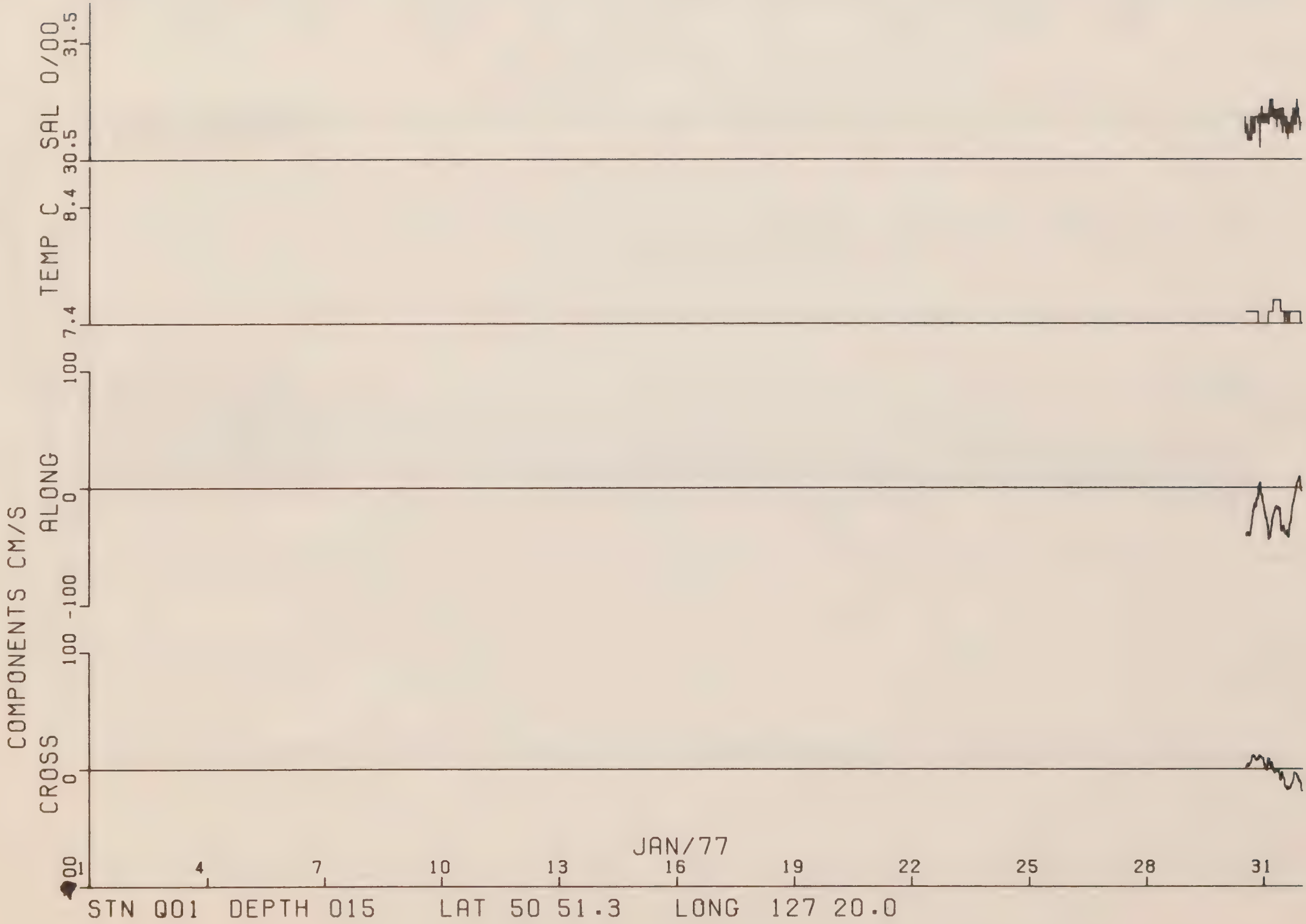
TEMP C
7.0 8.0
COMPONENTS CM/S
ALONG
100 0 -100
CROSS
100 0 -100


SAL 0/00
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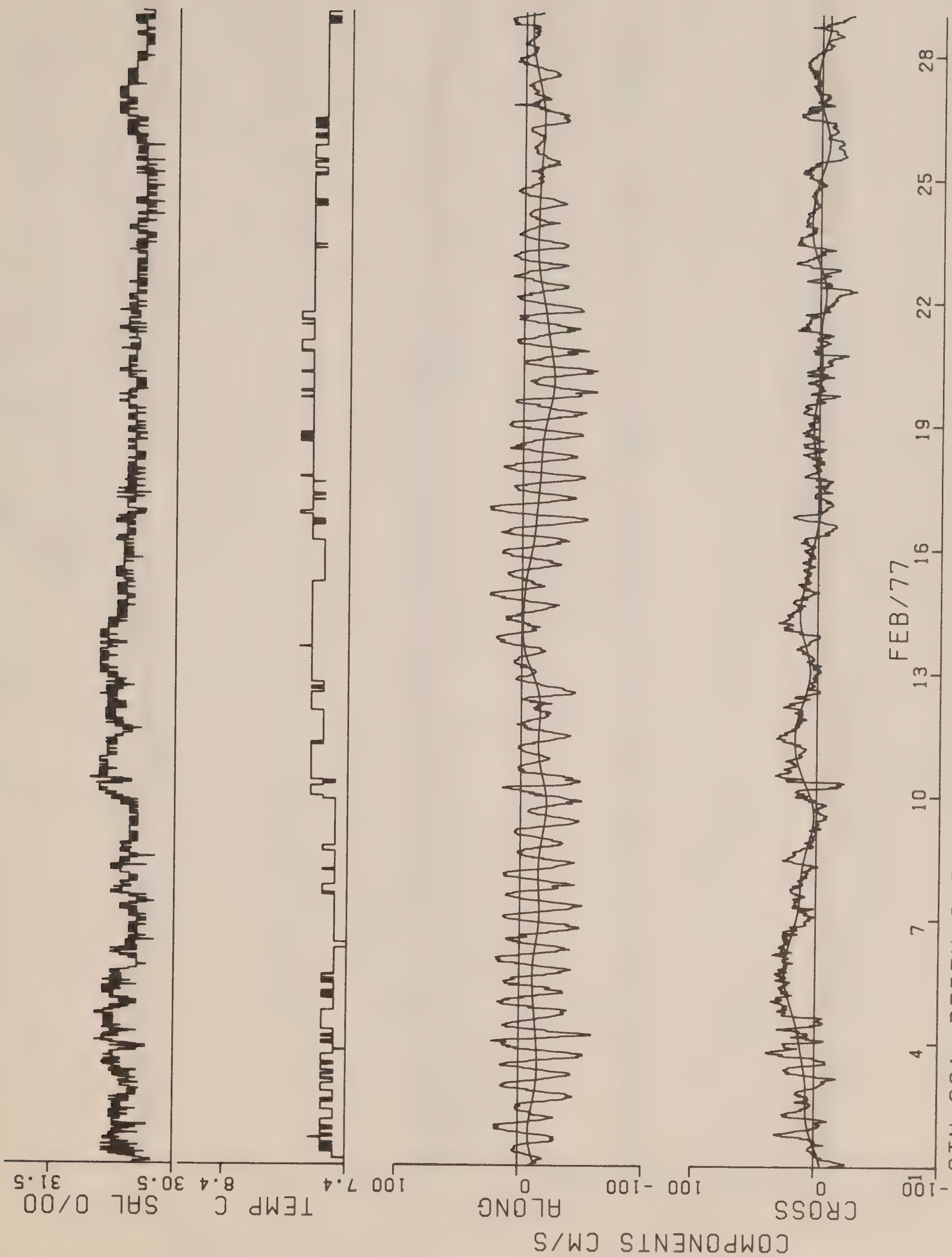
30.5
TEMP C
8.4
7.4
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
JAN/77
1
4
7
10
13
16
19
22
25
28
31
STN 001 DEPTH 015 LAT 50 51.3 LONG 127 20.0



STN Q01 DEPTH 015 LAT 50 51.3 LONG 127 20.0
FEB/77
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SAL O/OO
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TEMP C
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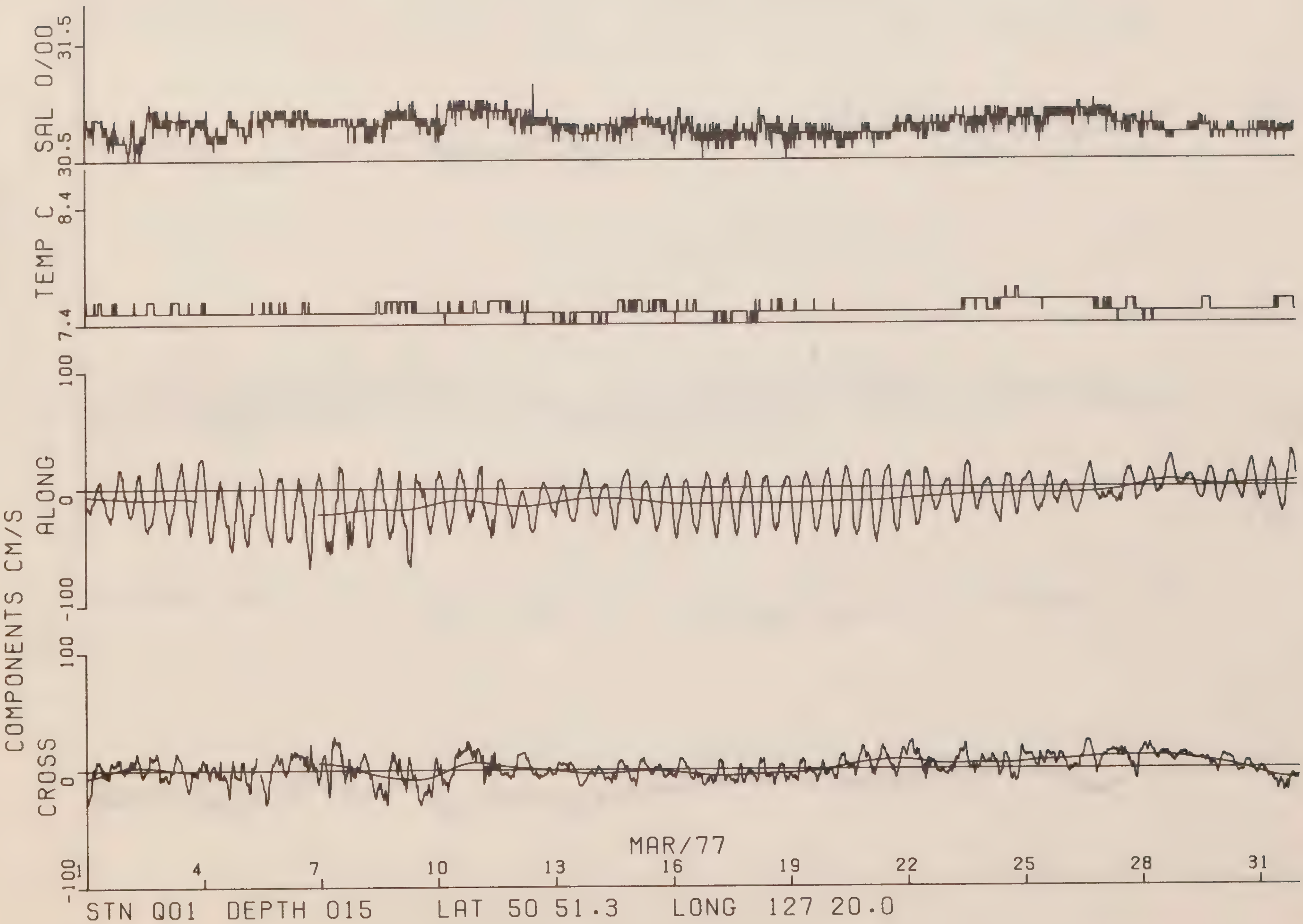
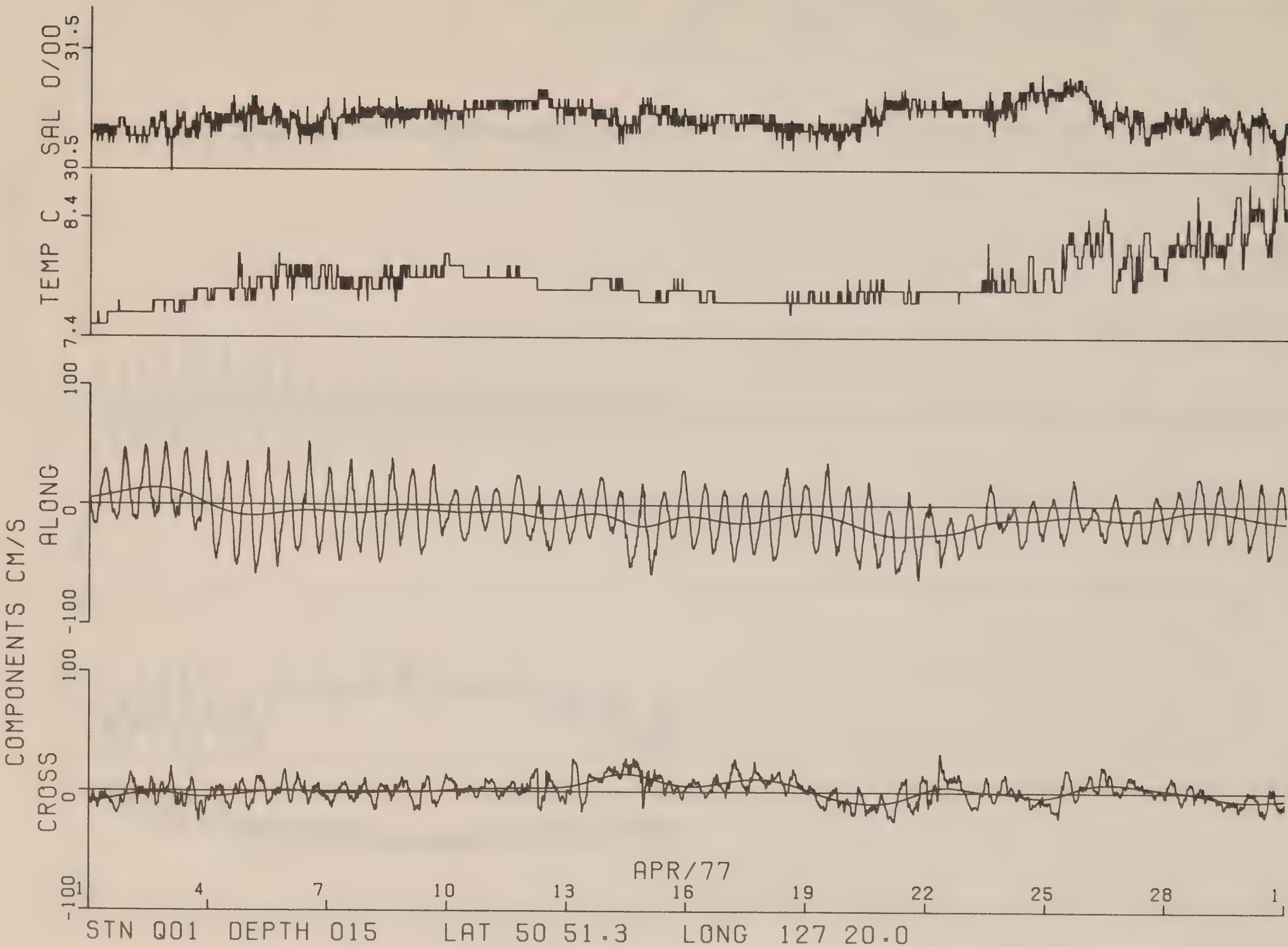
ALONG
100 0 -100
CROSS
100 0 -100
COMPONENTS CM/S



SAL O/OO
31.5
30.5
TEMP C
8.4
7.4
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
MAR/77
1
4
7
10
13
16
19
22
25
28
31
STN Q01 DEPTH 015 LAT 50 51.3 LONG 127 20.0


SAL O/OO
31.5
30.5
TEMP C
8.4
7.4
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
APR/77
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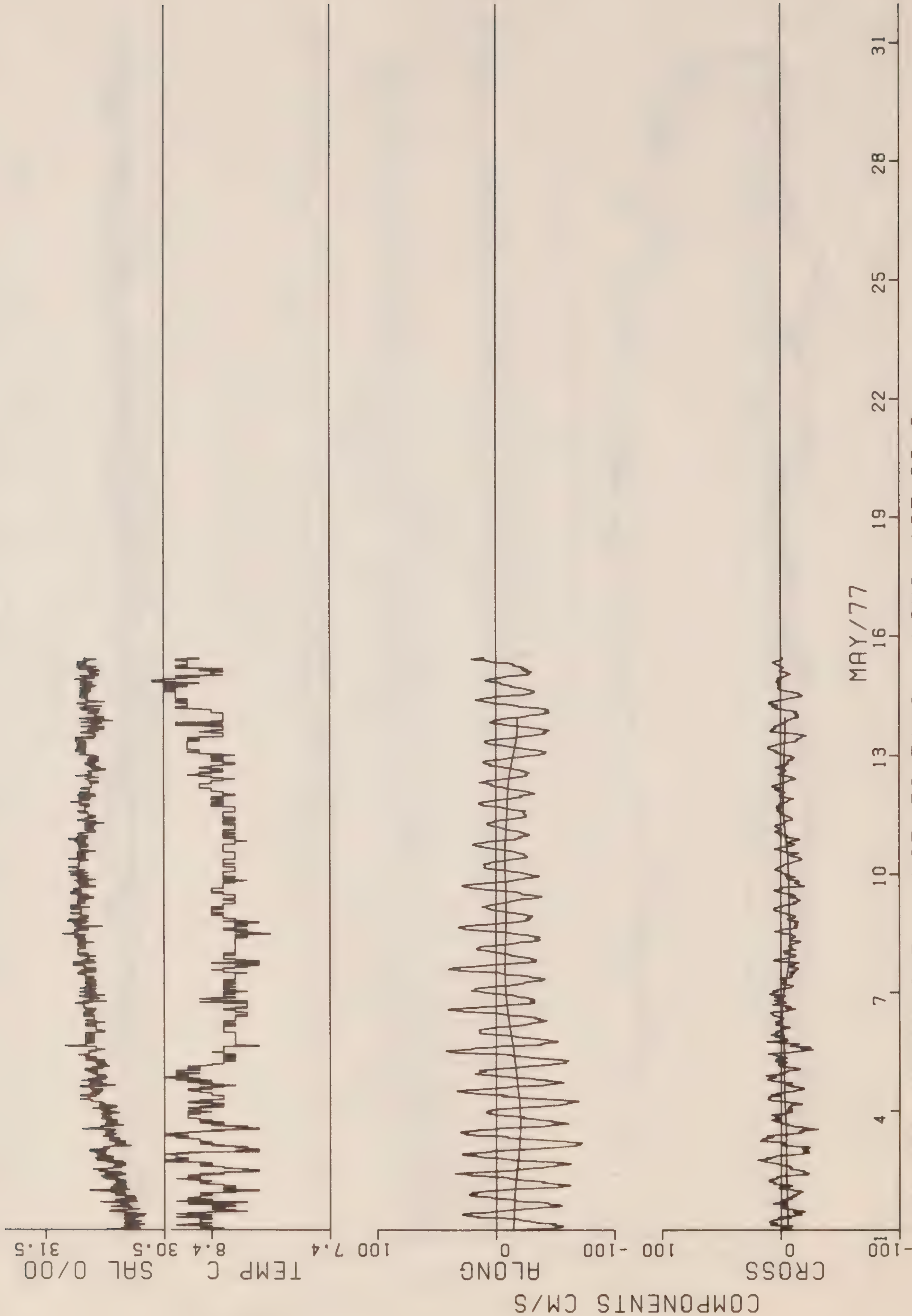
4
7
10
13
16
19
22
25
28
1
STN Q01 DEPTH 015 LAT 50 51.3 LONG 127 20.0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30.5
TEMP C
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7.4
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
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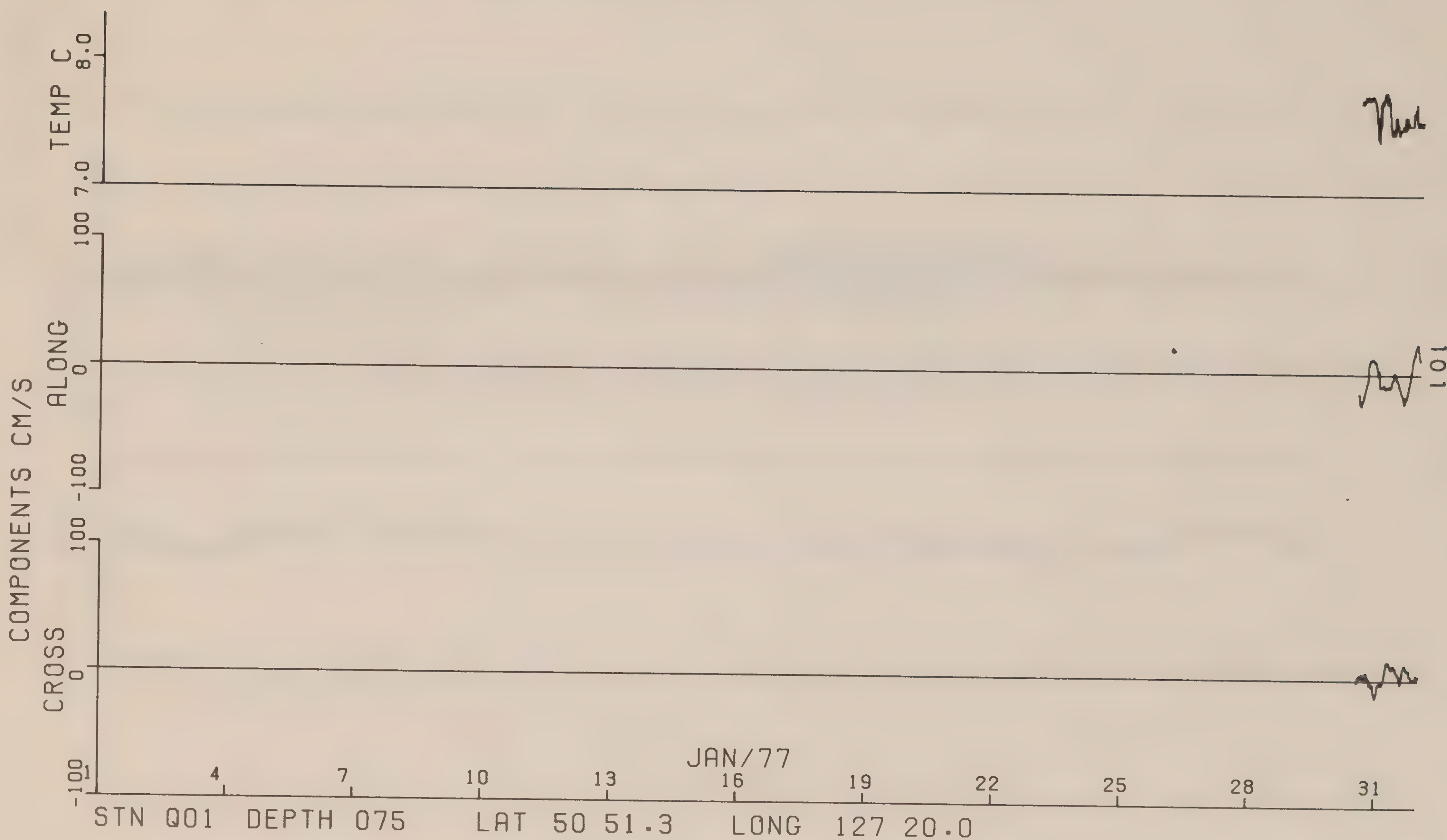
4
7
10
13
16
19
22
25
28
31
MAY/77
STN 001 DEPTH 015 LAT 50 51.3 LONG 127 20.0



TEMP C
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7.0
100
ALONG
0
-100
101
COMPONENTS CM/S
100
CROSS
0
-100
JAN/77
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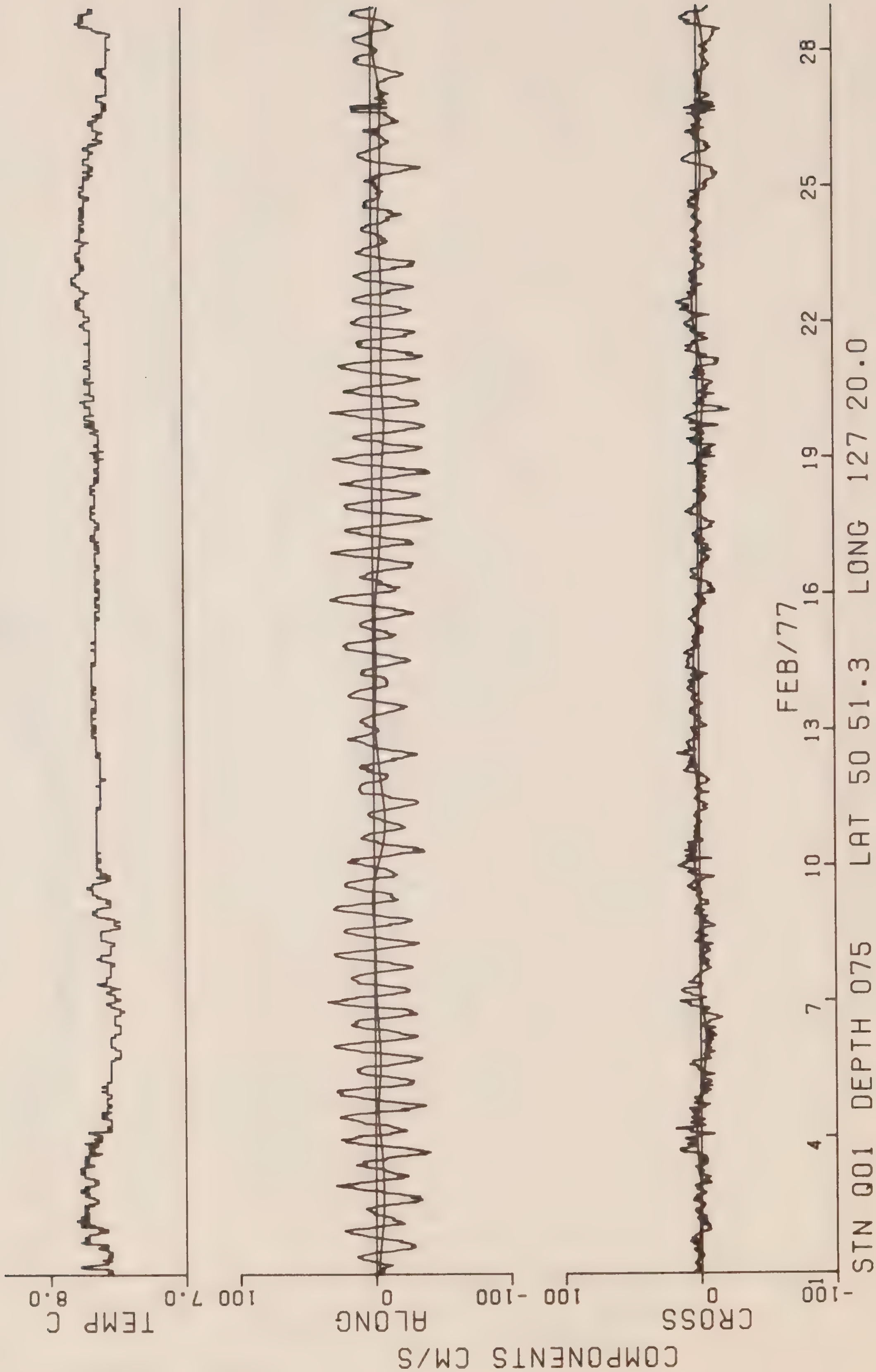
10
13
16
19
22
25
28
31
STN Q01 DEPTH 075 LAT 50 51.3 LONG 127 20.0



STN Q01 DEPTH 075 LAT 50 51.3 LONG 127 20.0
FEB/77
4
7
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22
25
28
TEMP C
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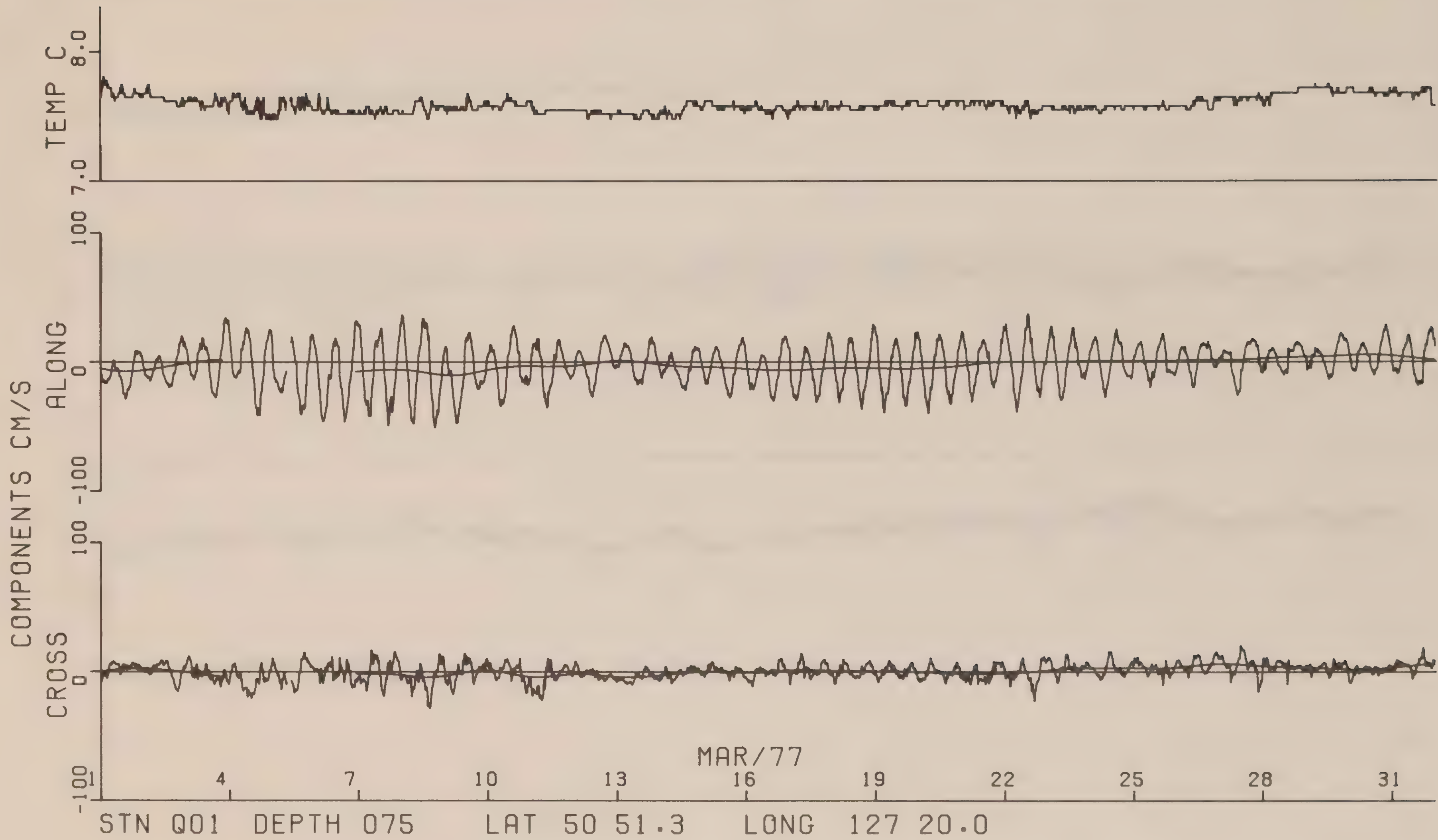
8.0
COMPONENTS CM/S
ALONG
CROSS
100
0
-100


TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
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0
-100
CROSS
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16
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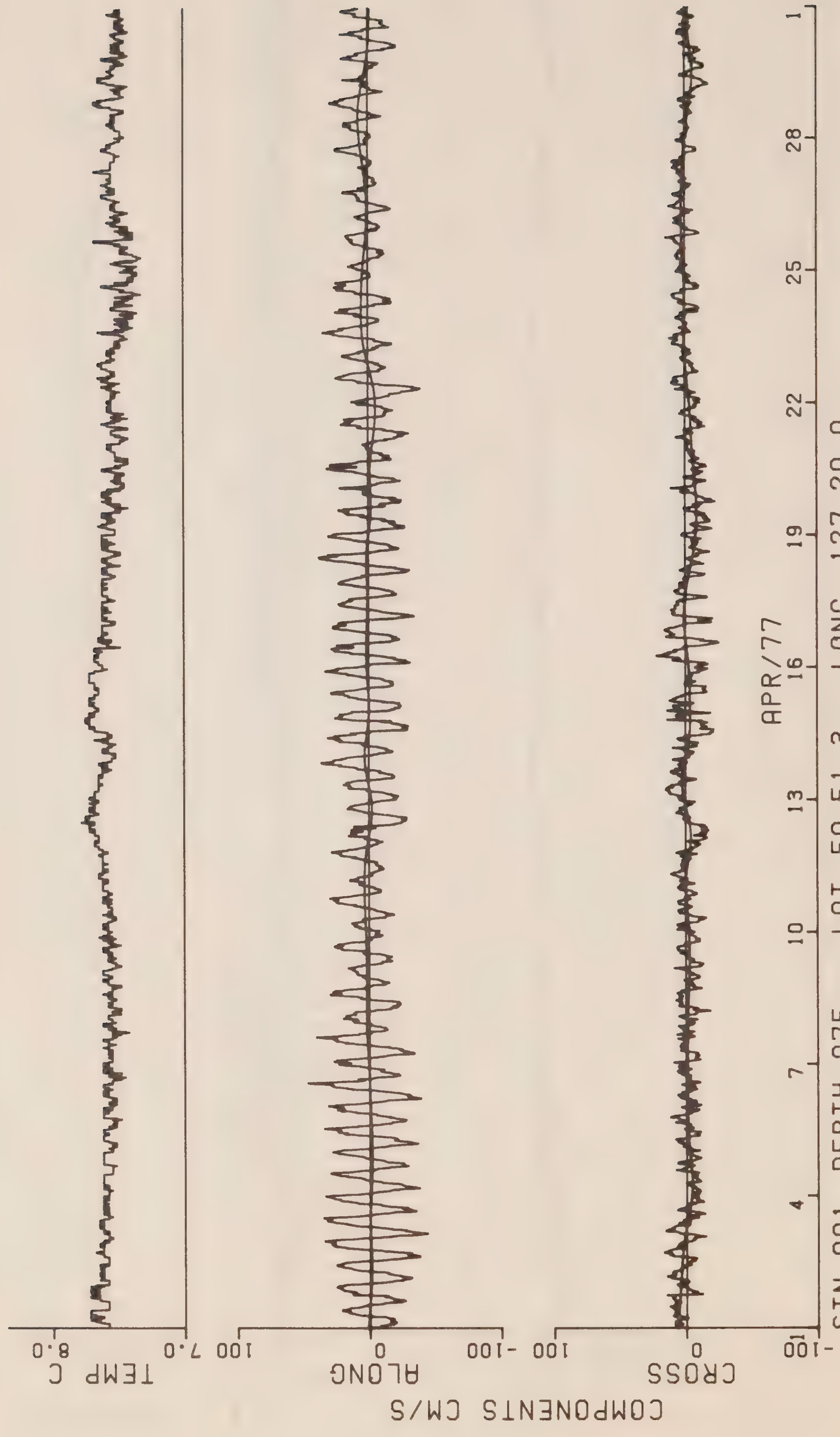
22
25
28
31
MAR/77
STN Q01 DEPTH 075 LAT 50 51.3 LONG 127 20.0


TEMP C
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7.0
COMPONENTS CM/S
ALONG
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0
-100
CROSS
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0
-100
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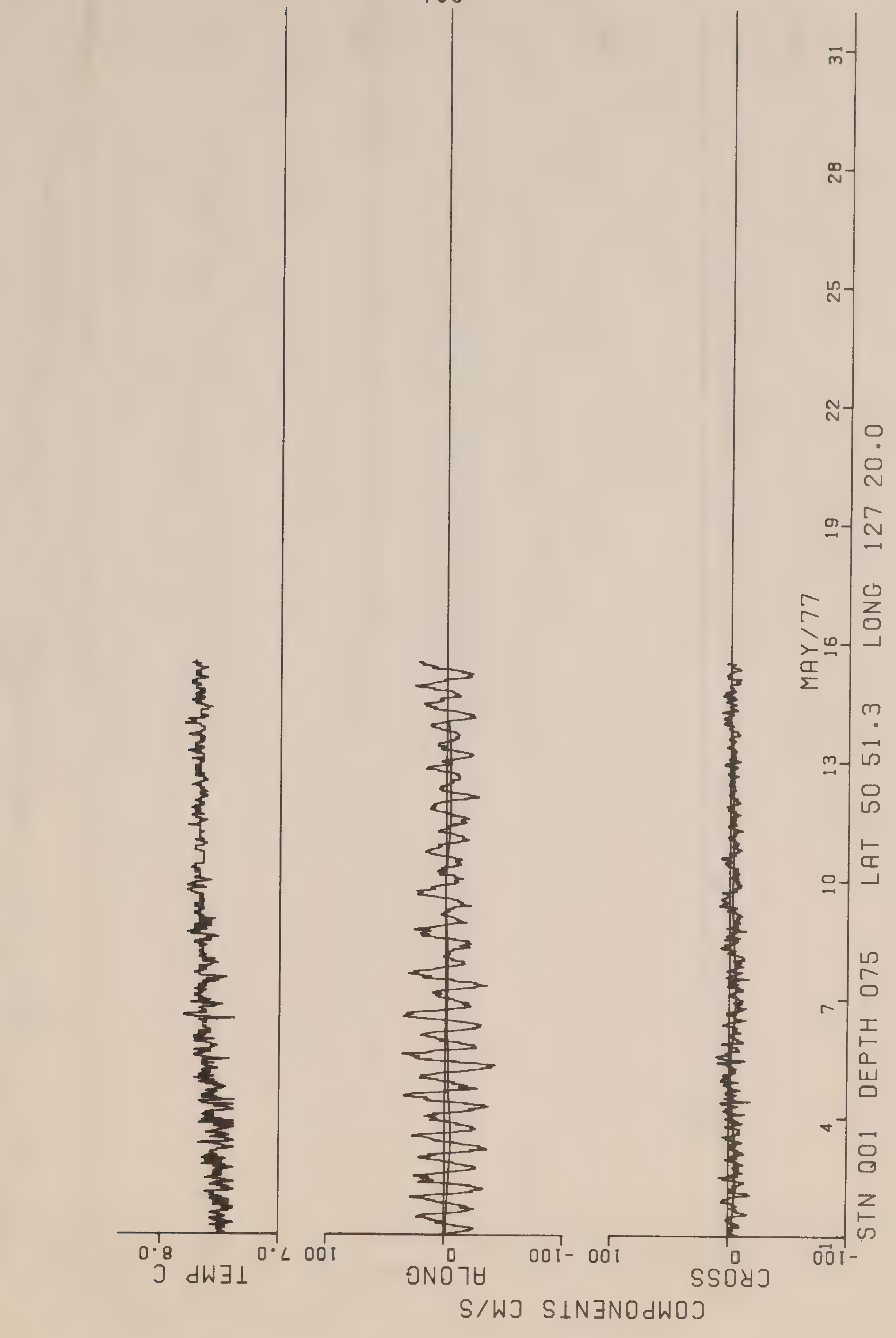
16
19
22
25
28
1
APR/77
STN Q01 DEPTH 075 LAT 50 51.3 LONG 127 20.0


STN Q01 DEPTH 075 LAT 50 51.3 LONG 127 20.0
MAY/77
4
7
10
13
16
19
22
25
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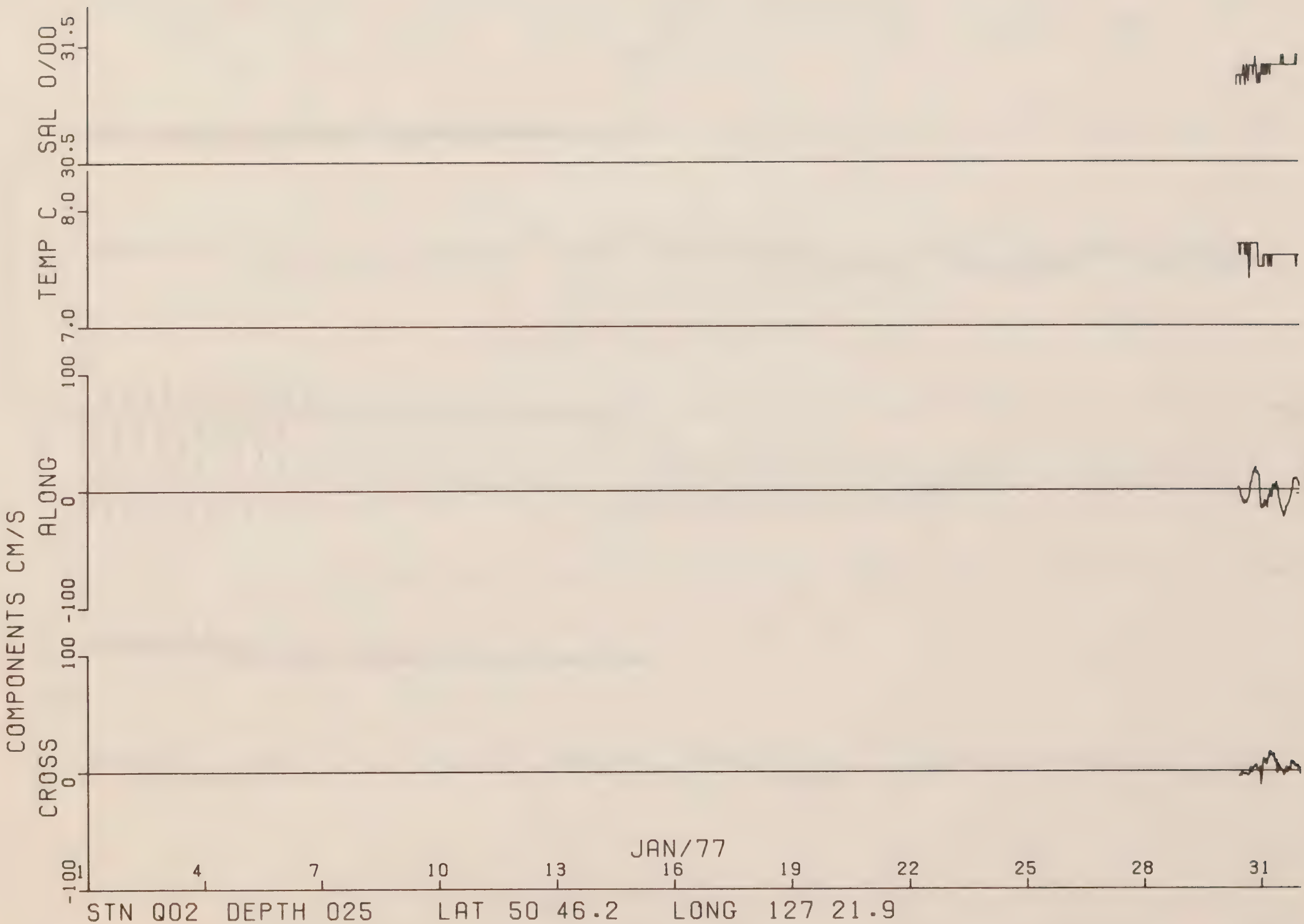
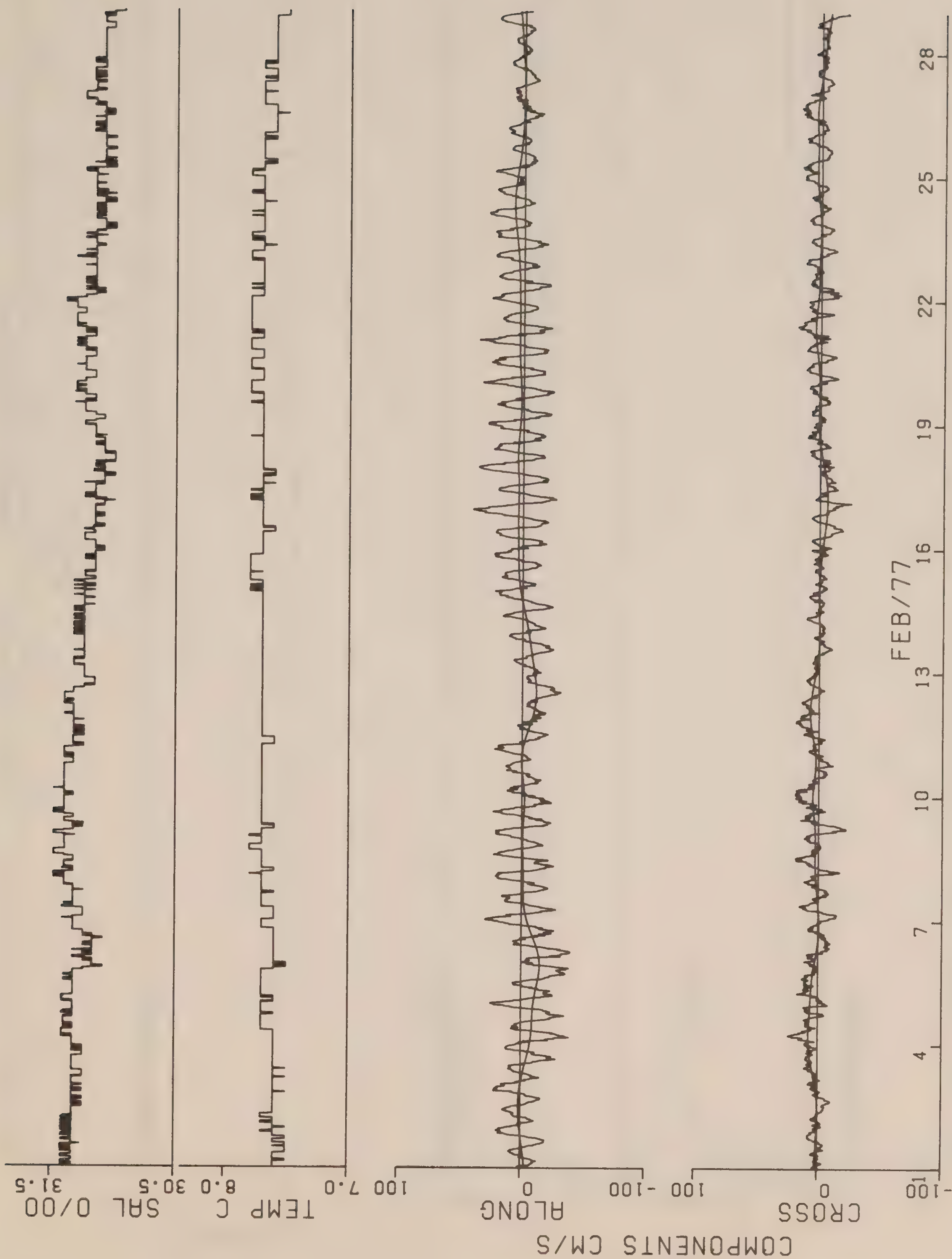
31
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100



SAL O/OO
31.5
30.5
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
4
7
10
13
16
19
22
25
28
31
JAN/77
STN Q02 DEPTH 025 LAT 50 46.2 LONG 127 21.9


SAL O/OO
31.5
30.5
TEMP C
8.0
7.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
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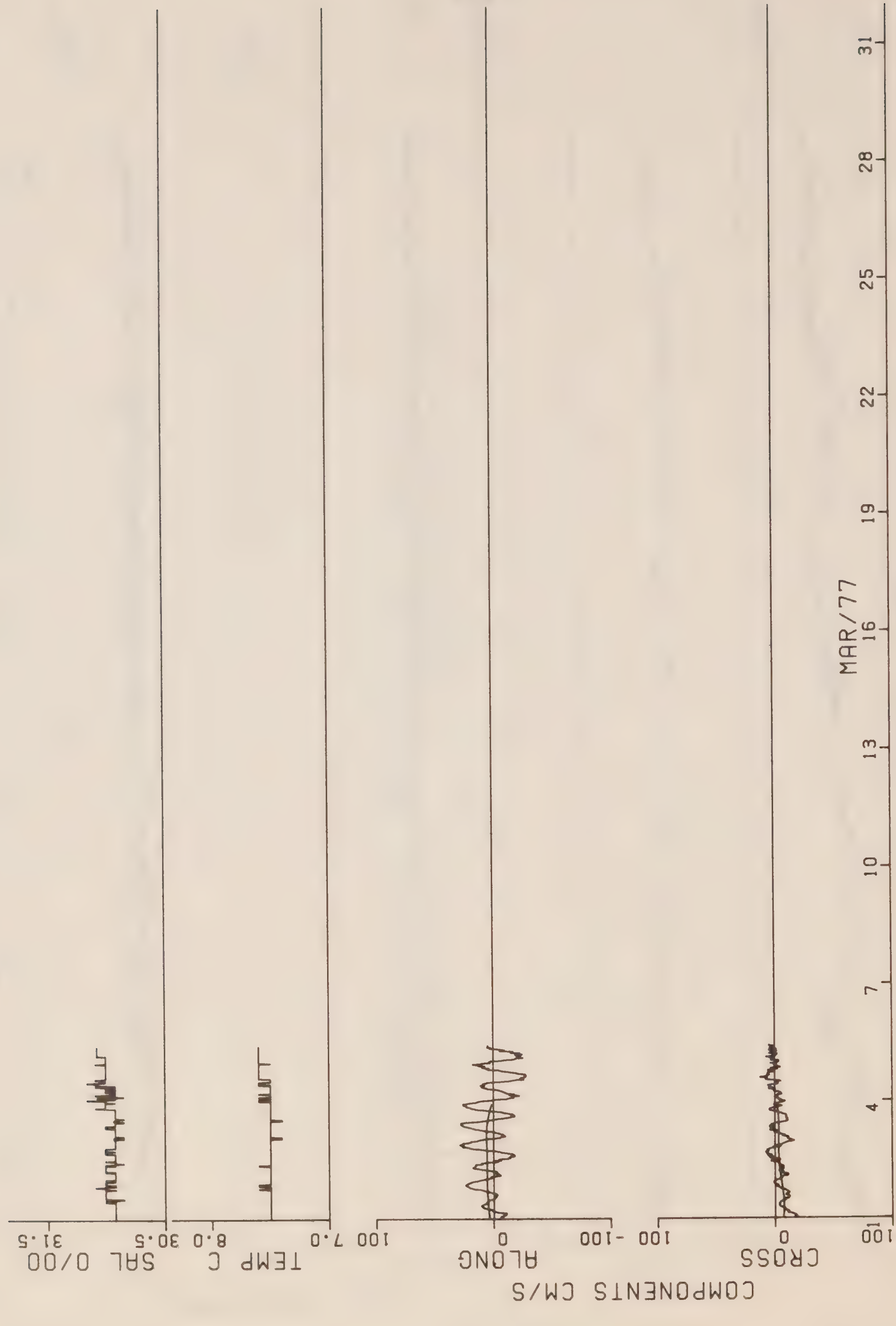
7
10
13
16
19
22
25
28
FEB/77
STN Q02 DEPTH 025 LAT 50 46.2 LONG 127 21.9


SAL O/OO
31.5
30.5
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
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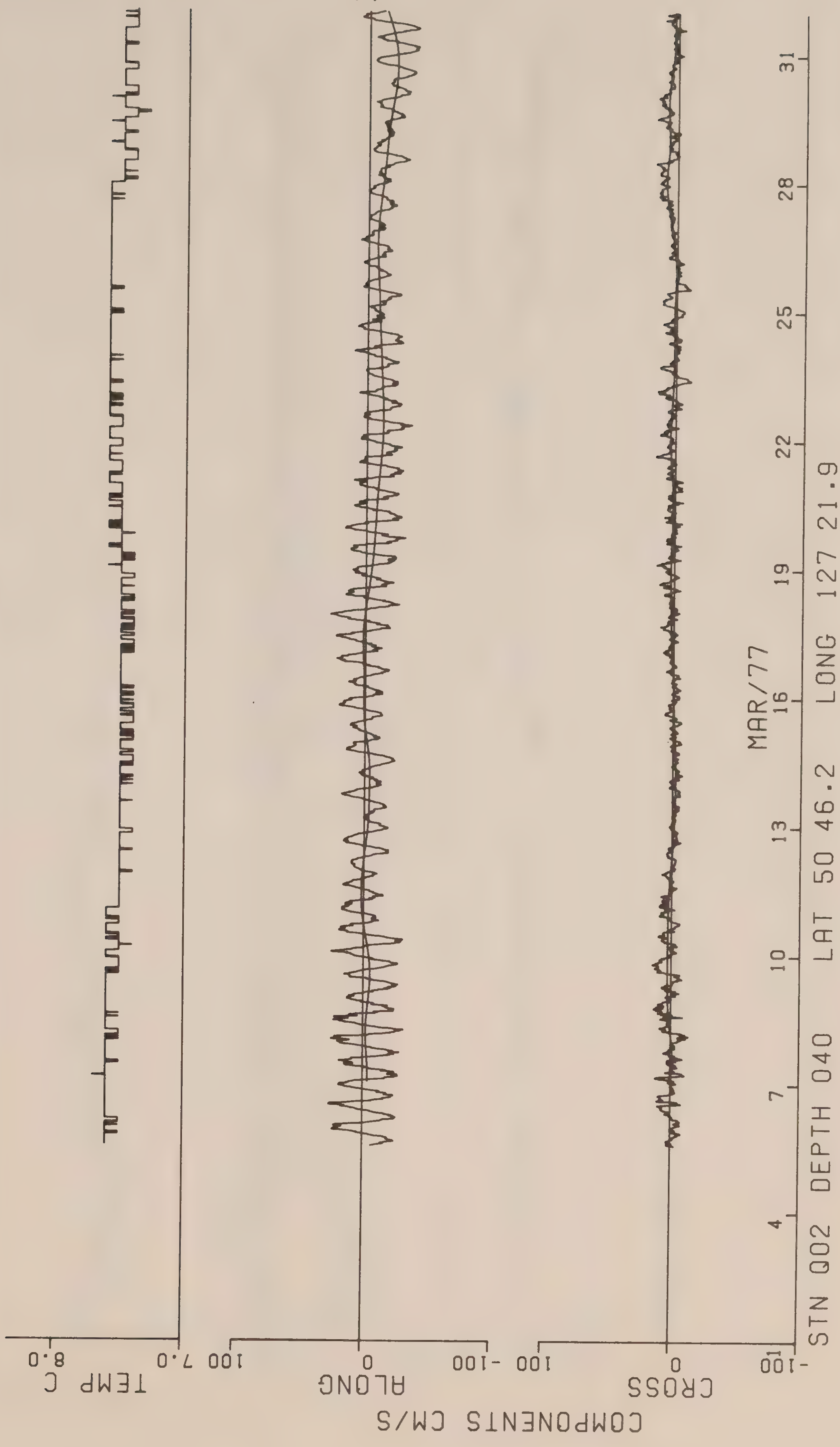
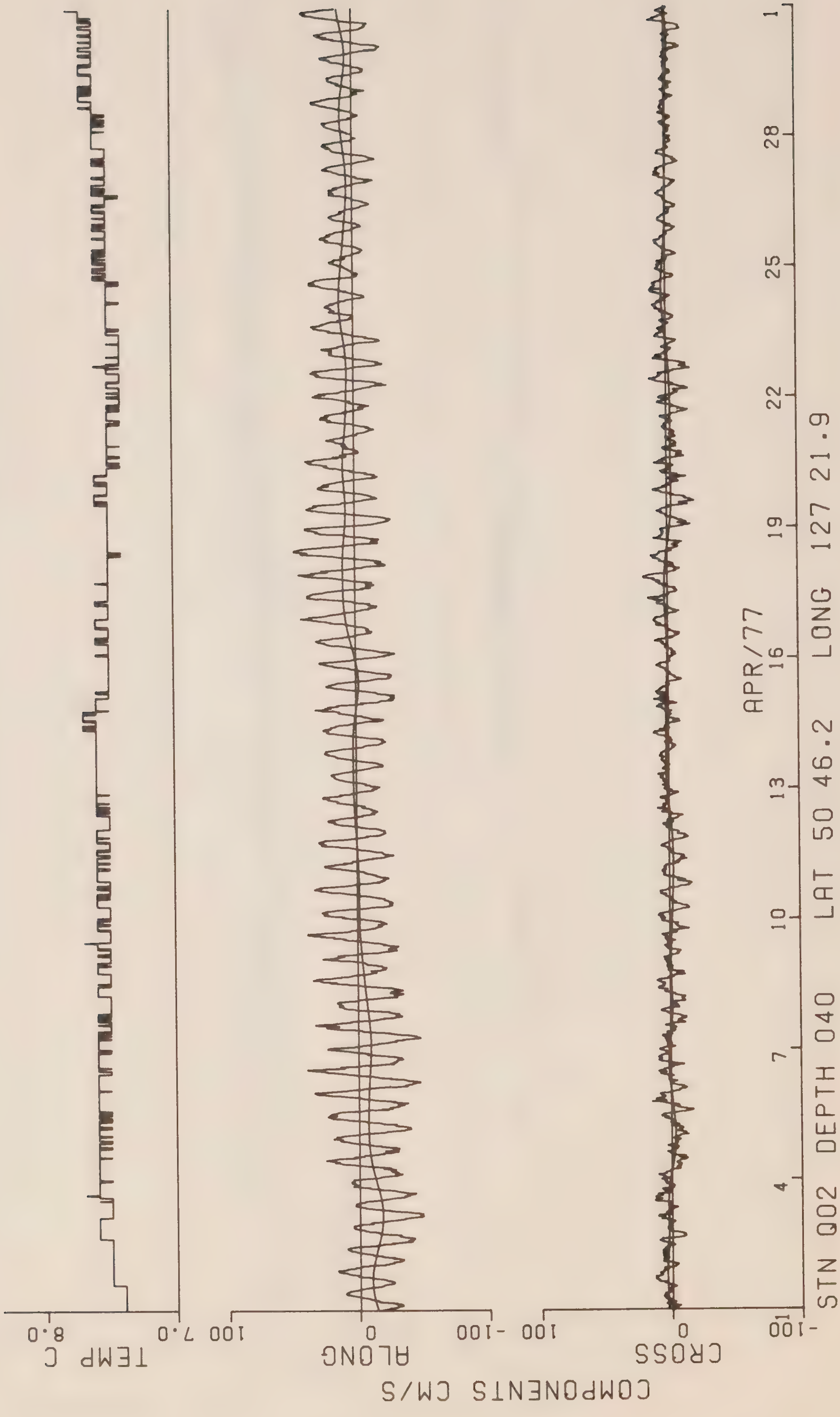
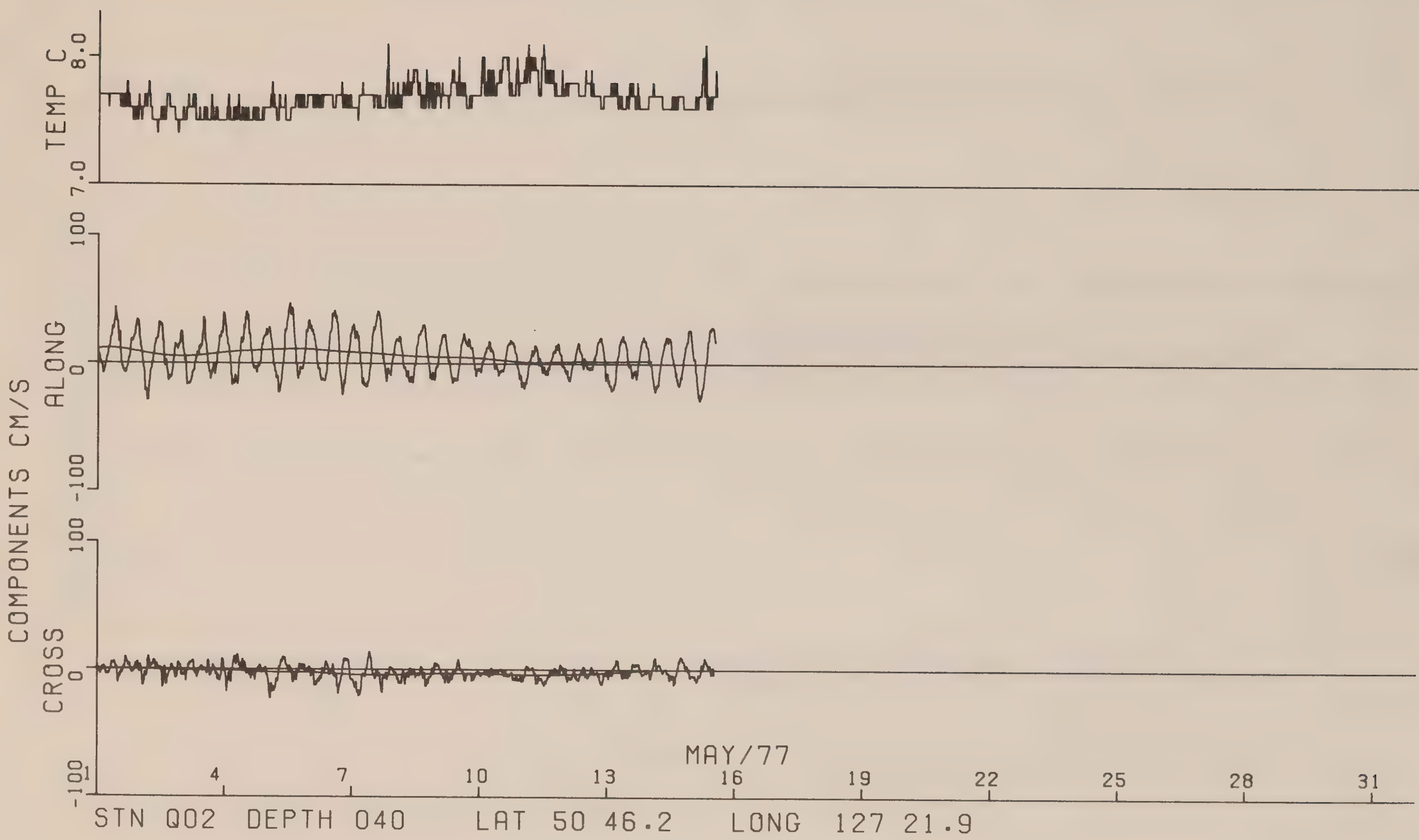
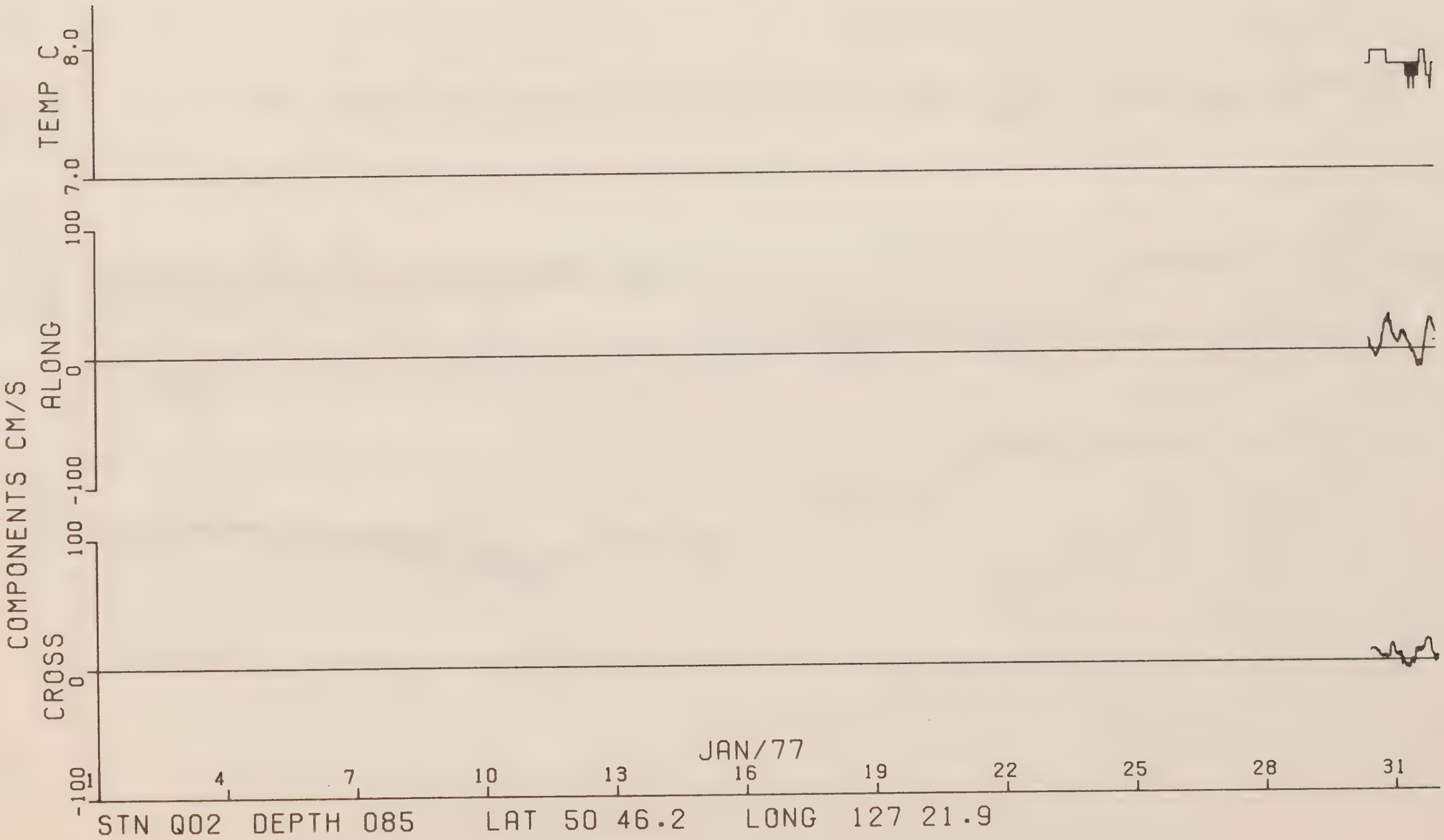
10
13
16
19
22
25
28
31
MAR/77
STN Q02 DEPTH 025 LAT 50 46.2 LONG 127 21.9



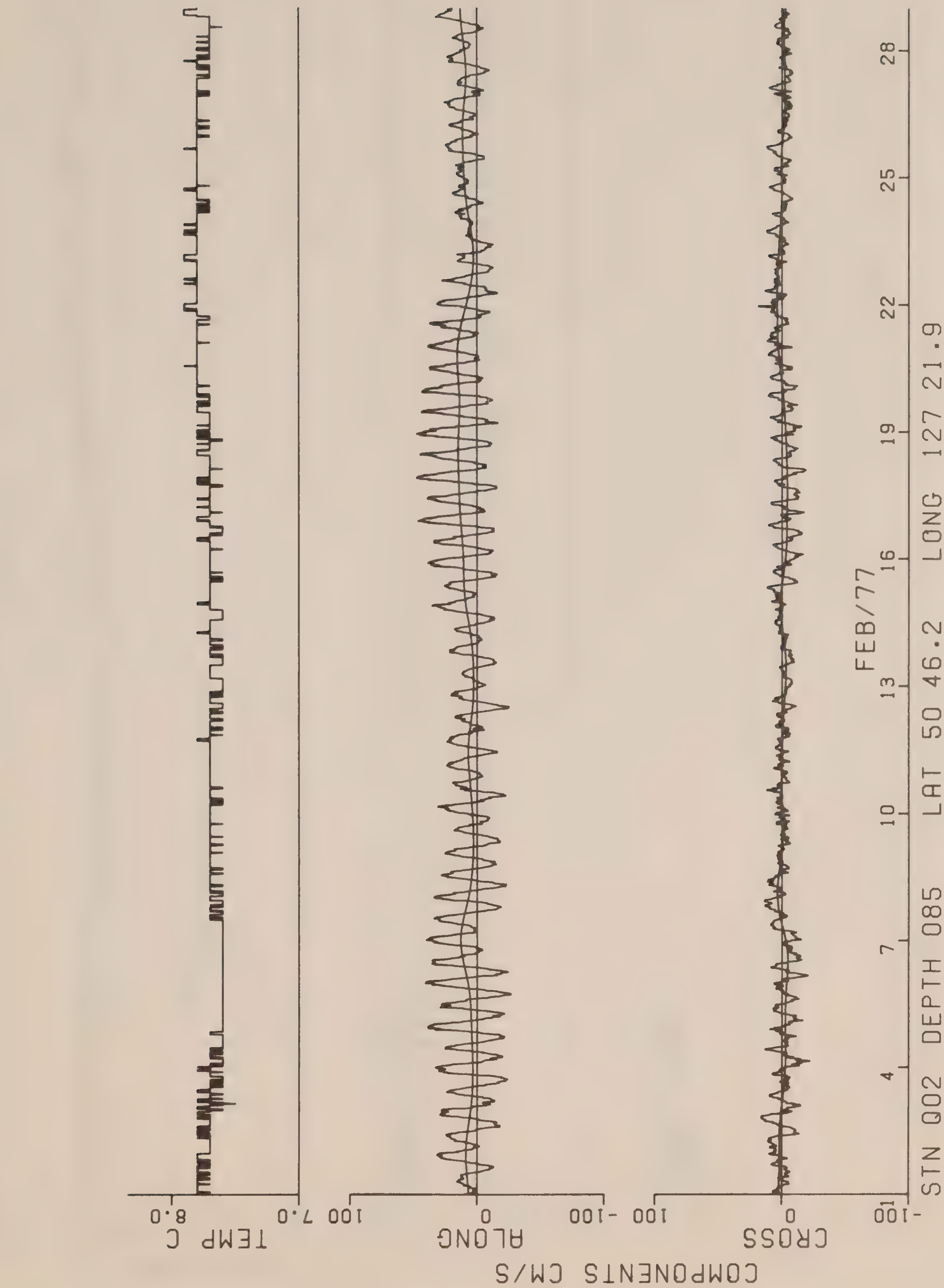
STN Q02 DEPTH 040 LAT 50 46.2 LONG 127 21.9
MAR/77
4 7 10 13 16 19 22 25 28 31
TEMP C
7.0 8.0
ALONG
100 0 -100
CROSS
100 0 -100
COMPONENTS CM/S

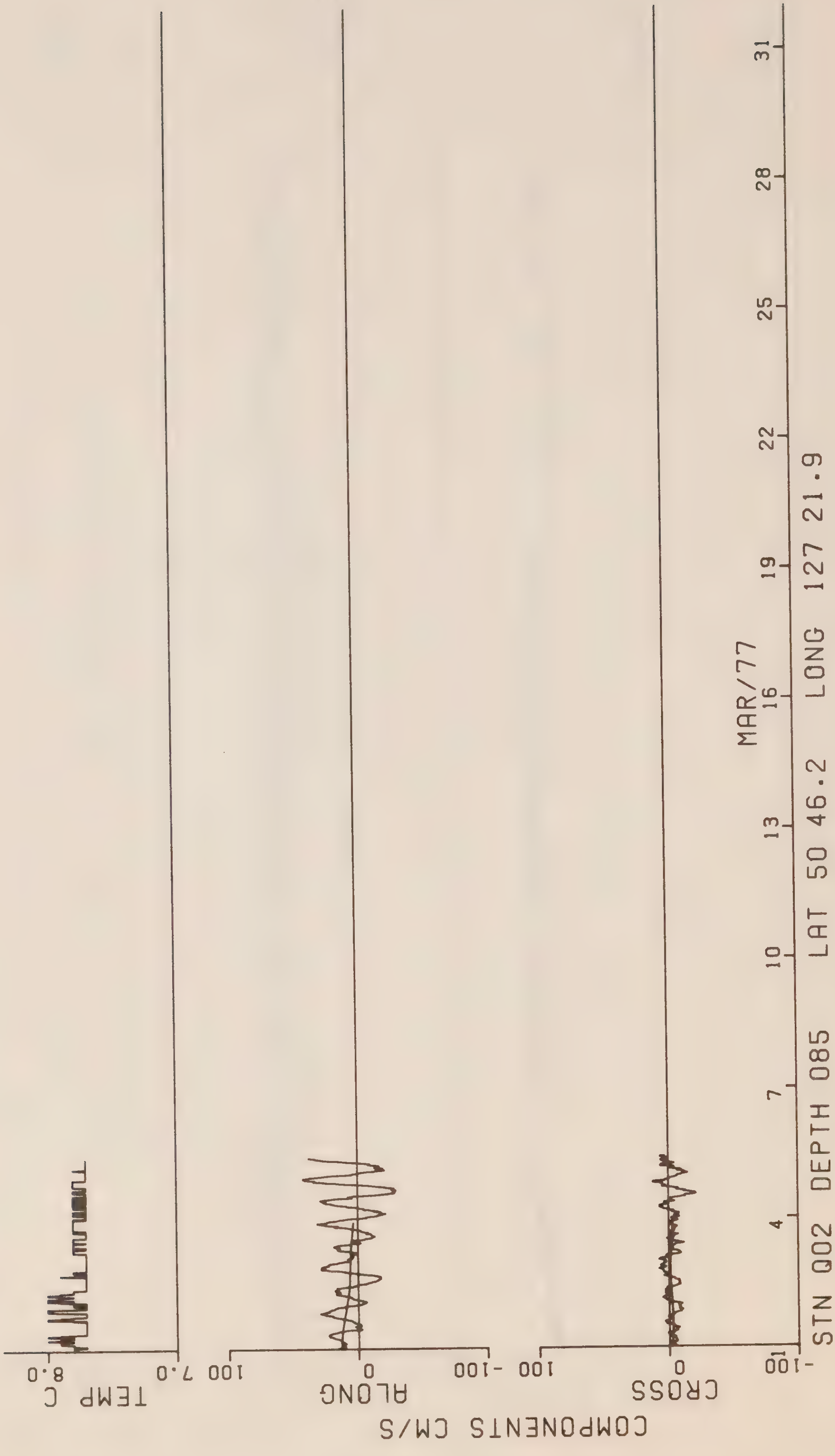

TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
4
7
10
13
16
19
22
25
28
1
APR/77
STN Q02 DEPTH 040 LAT 50 46.2 LONG 127 21.9

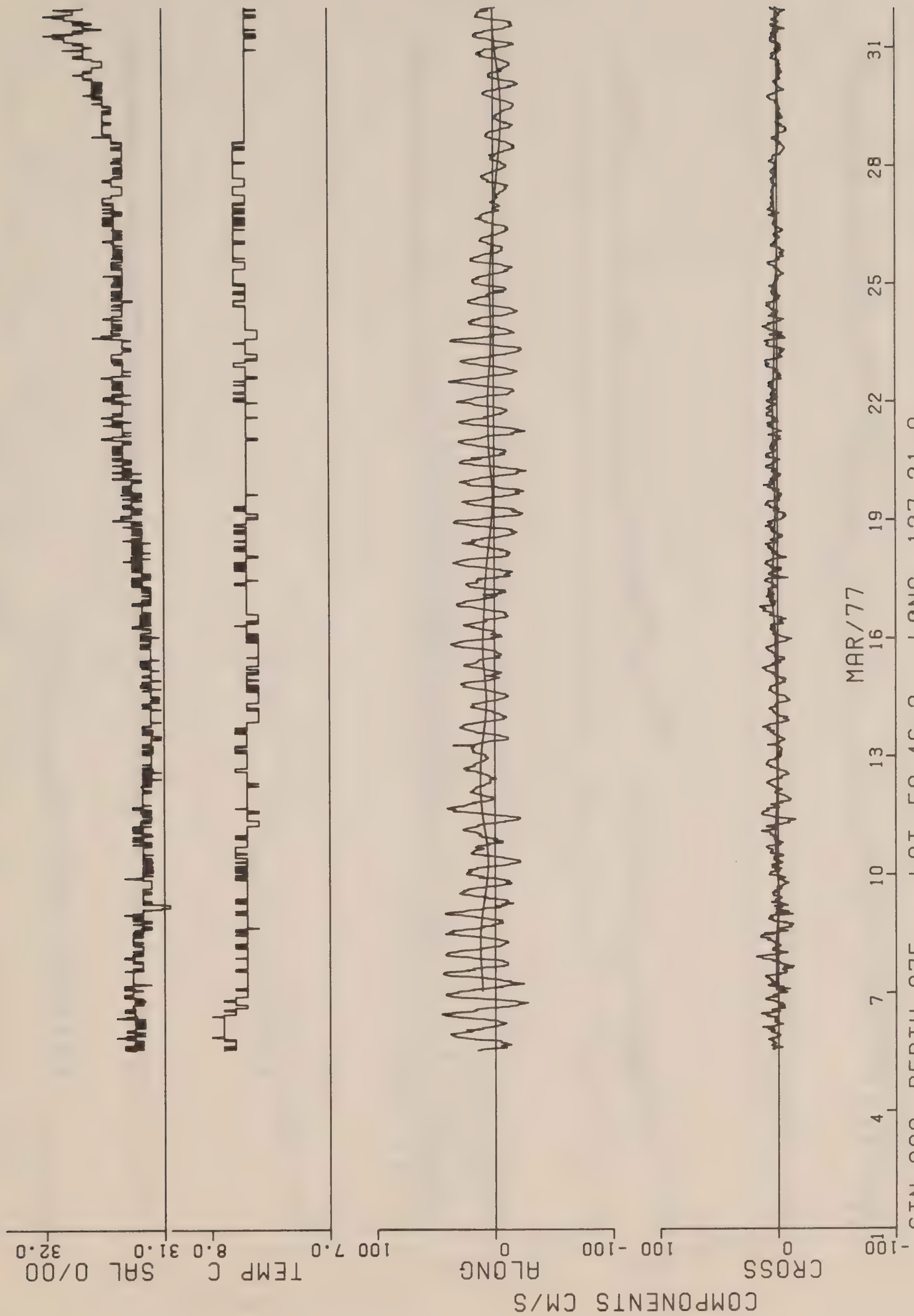

TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
4
7
10
13
16
19
22
25
28
31
MAY/77
STN Q02 DEPTH 040 LAT 50 46.2 LONG 127 21.9

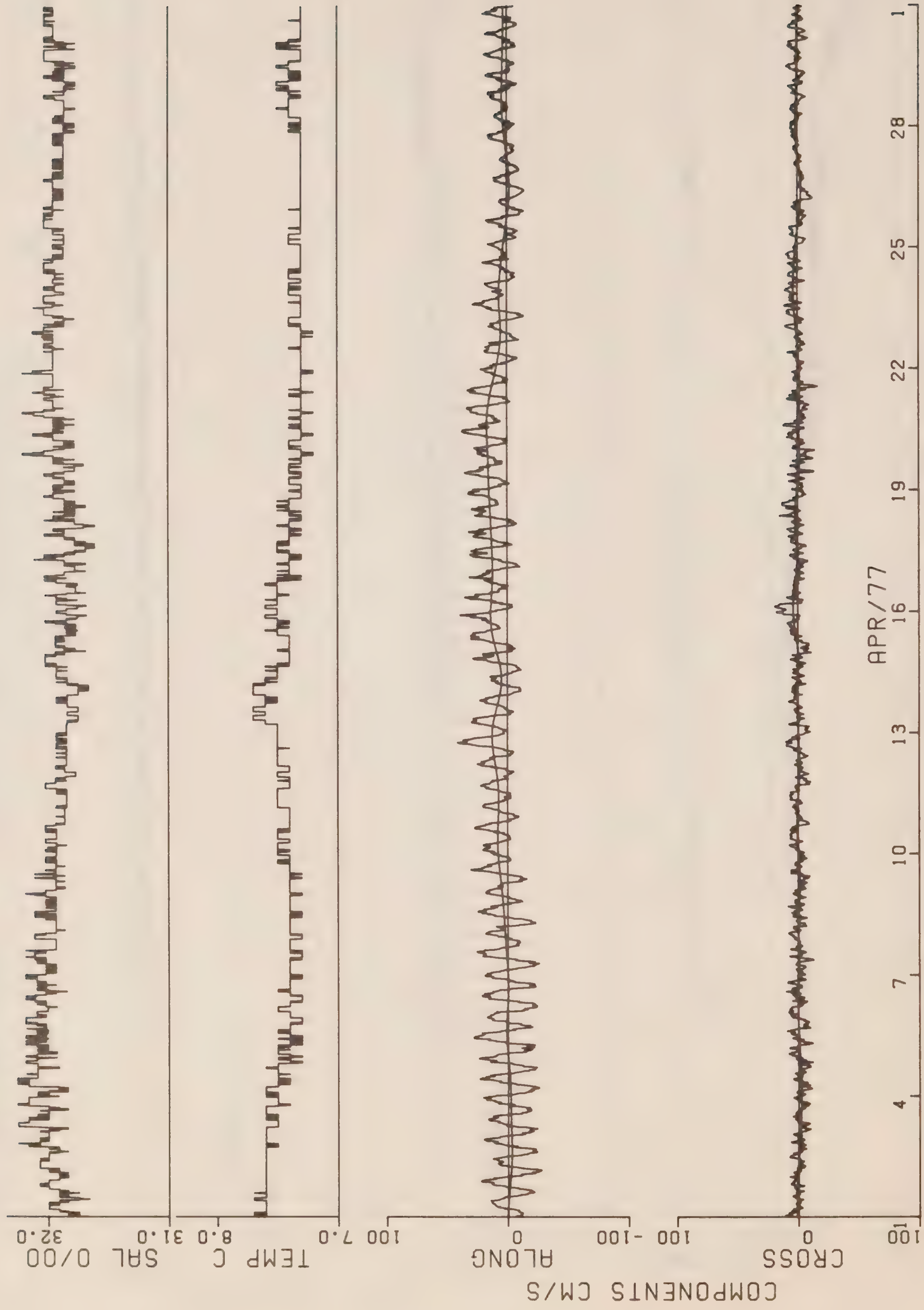


TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
112
CROSS
100
0
-100
JAN/77
1
4
7
10
13
16
19
22
25
28
31
STN Q02 DEPTH 085 LAT 50 46.2 LONG 127 21.9

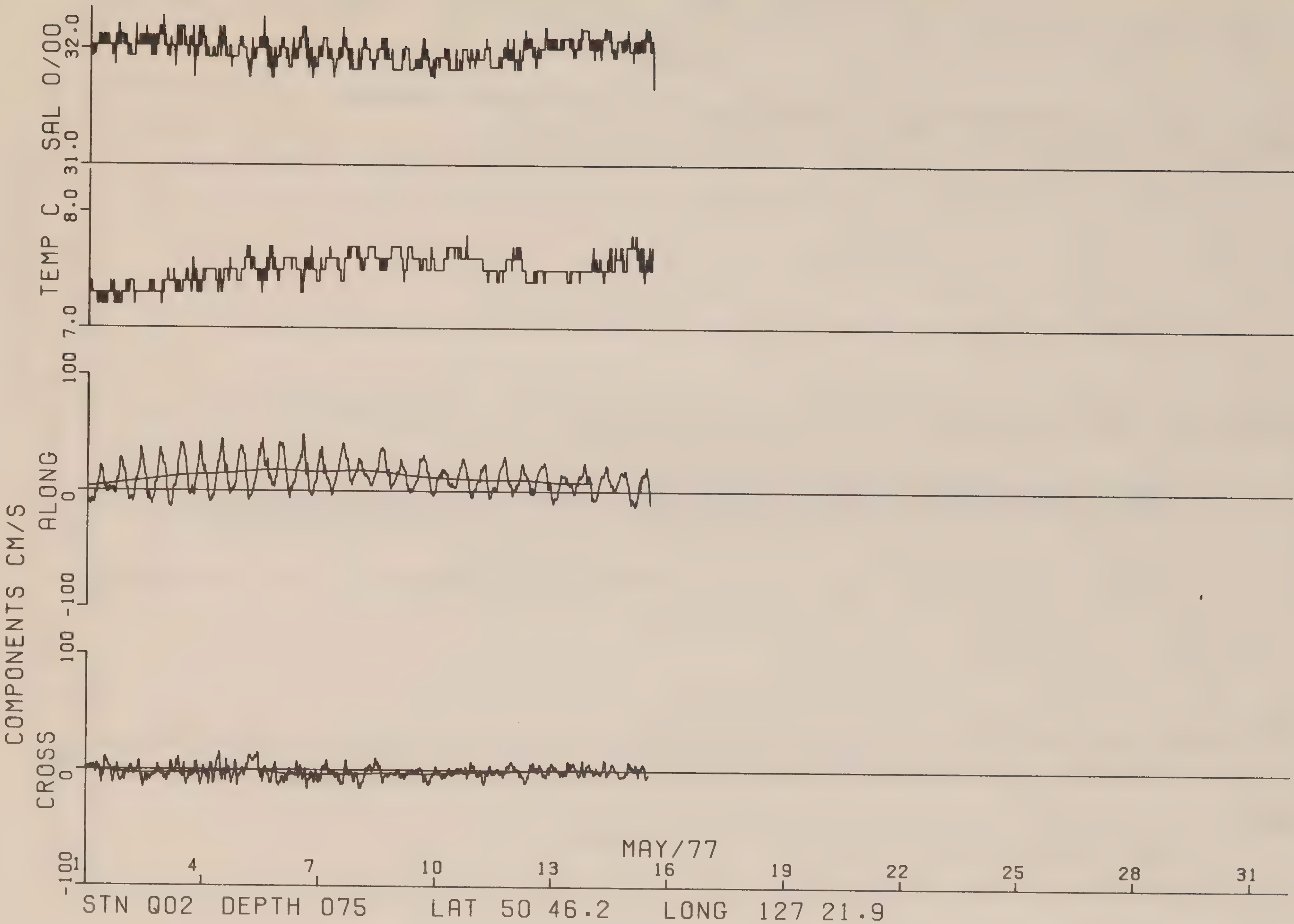

TEMP C
8.0
7.0
100
0
-100
ALONG
100
0
-100
CROSS
COMPONENTS CM/S
4
7
10
13
16
19
22
25
28
FEB/77
STN Q02 DEPTH 085 LAT 50 46.2 LONG 127 21.9

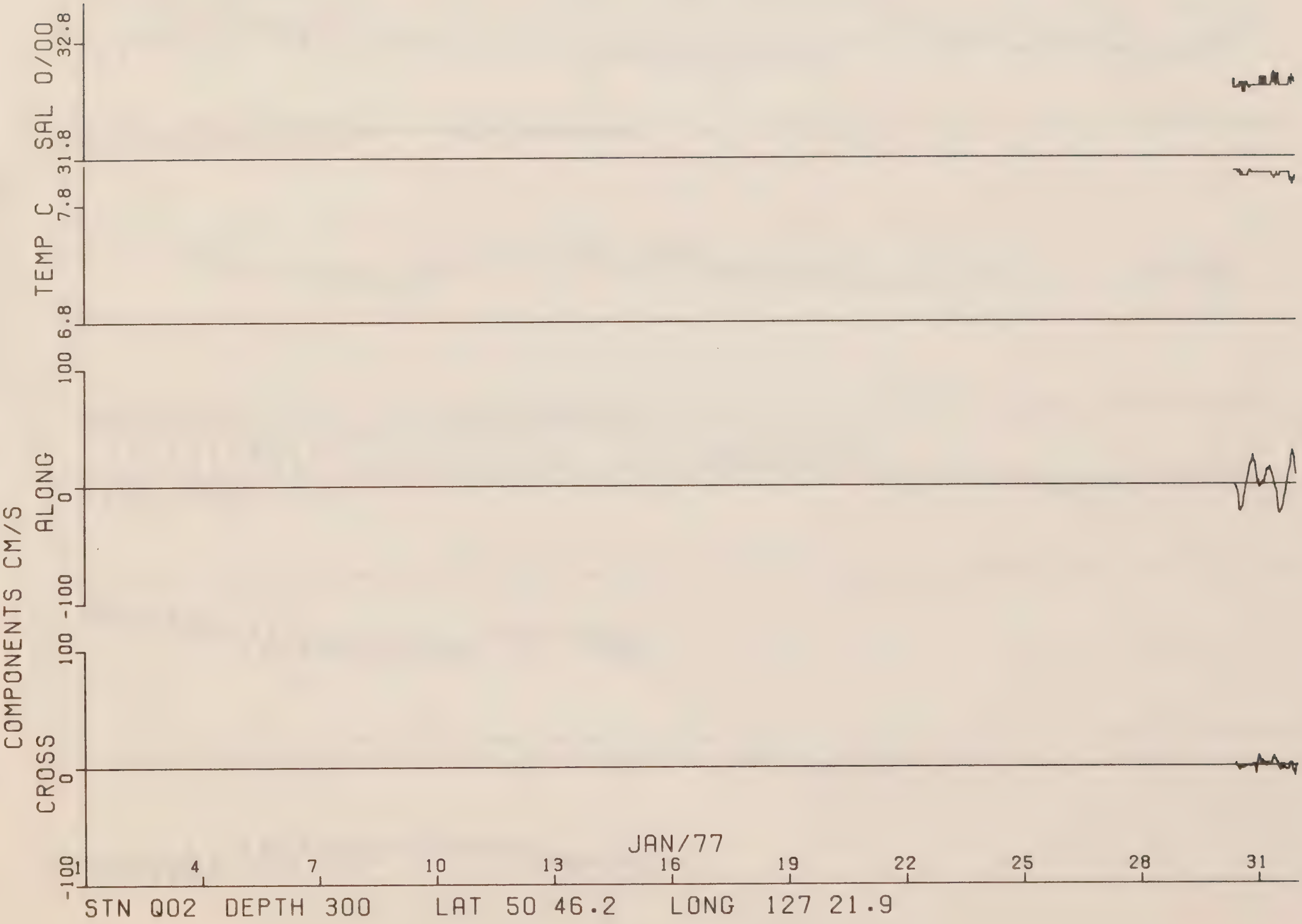

TEMP C
8.0
7.0
100
0
-100
ALONG
CROSS
COMPONENTS CM/S
4
7
10
13
16
19
22
25
28
31
MAR/77
STN Q02 DEPTH 085 LAT 50 46.2 LONG 127 21.9

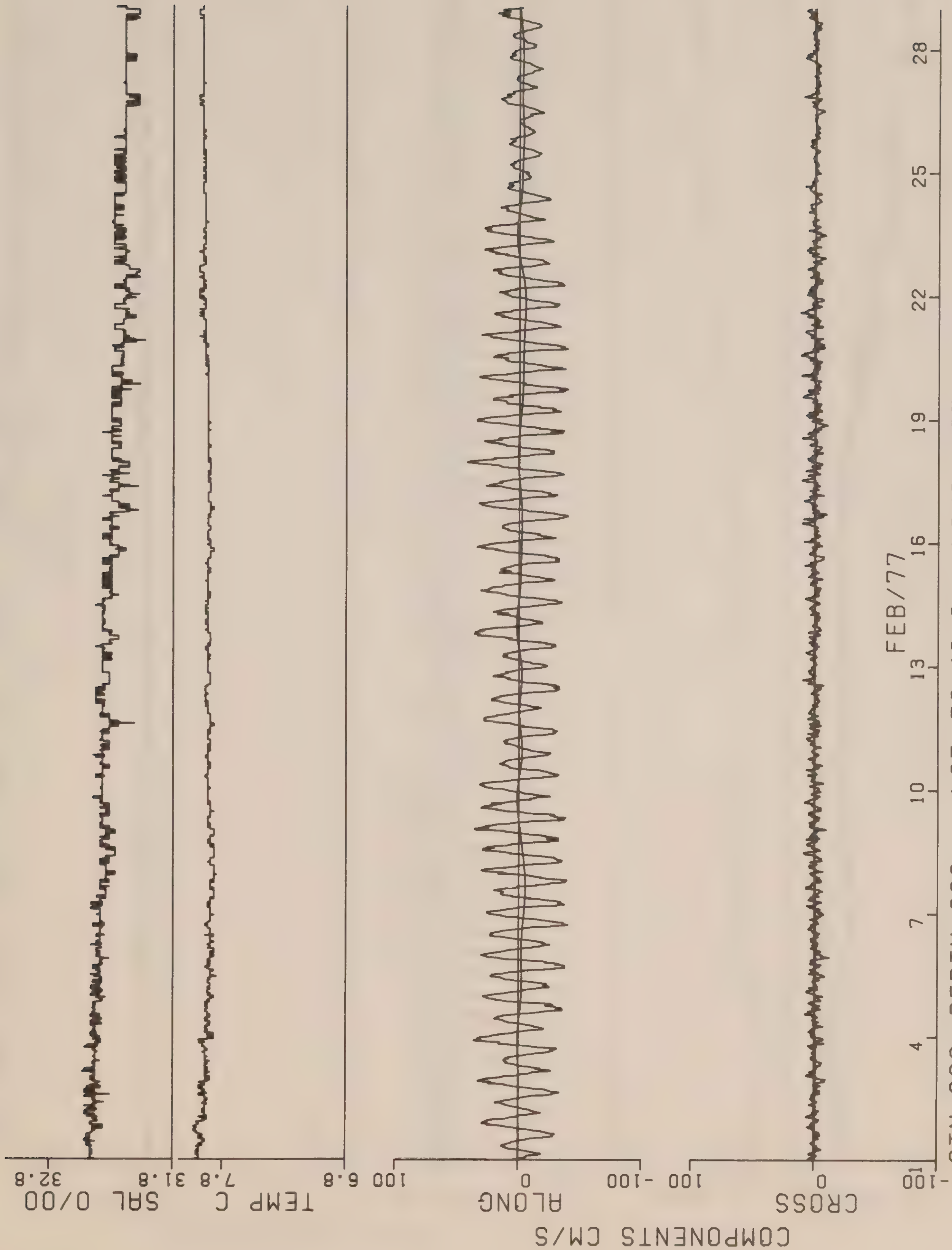

SAL O/OO
32.0
31.0
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1 4 7 10 13 16 19 22 25 28 31
MAR/77
STN Q02 DEPTH 075 LAT 50 46.2 LONG 127 21.9

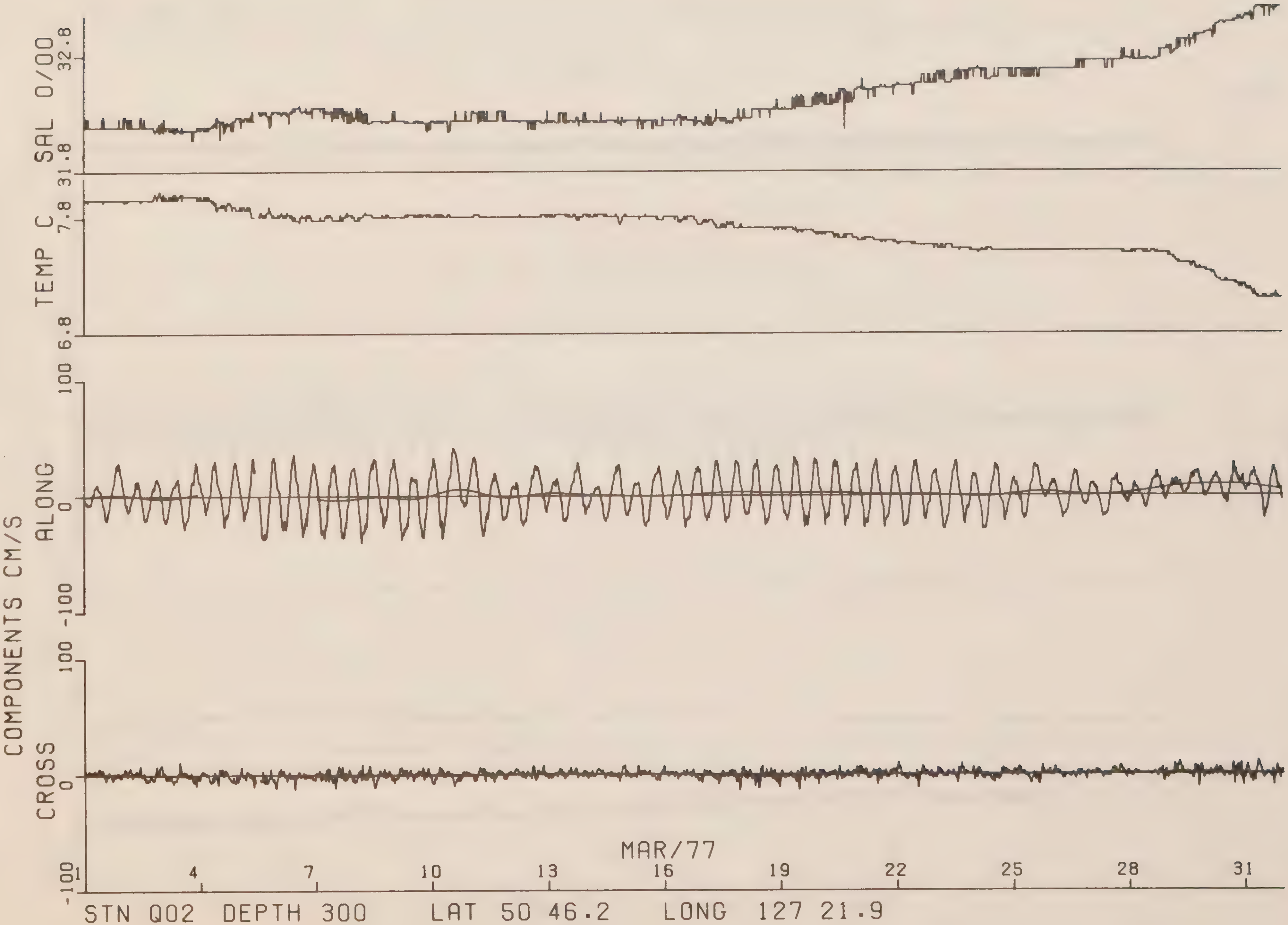


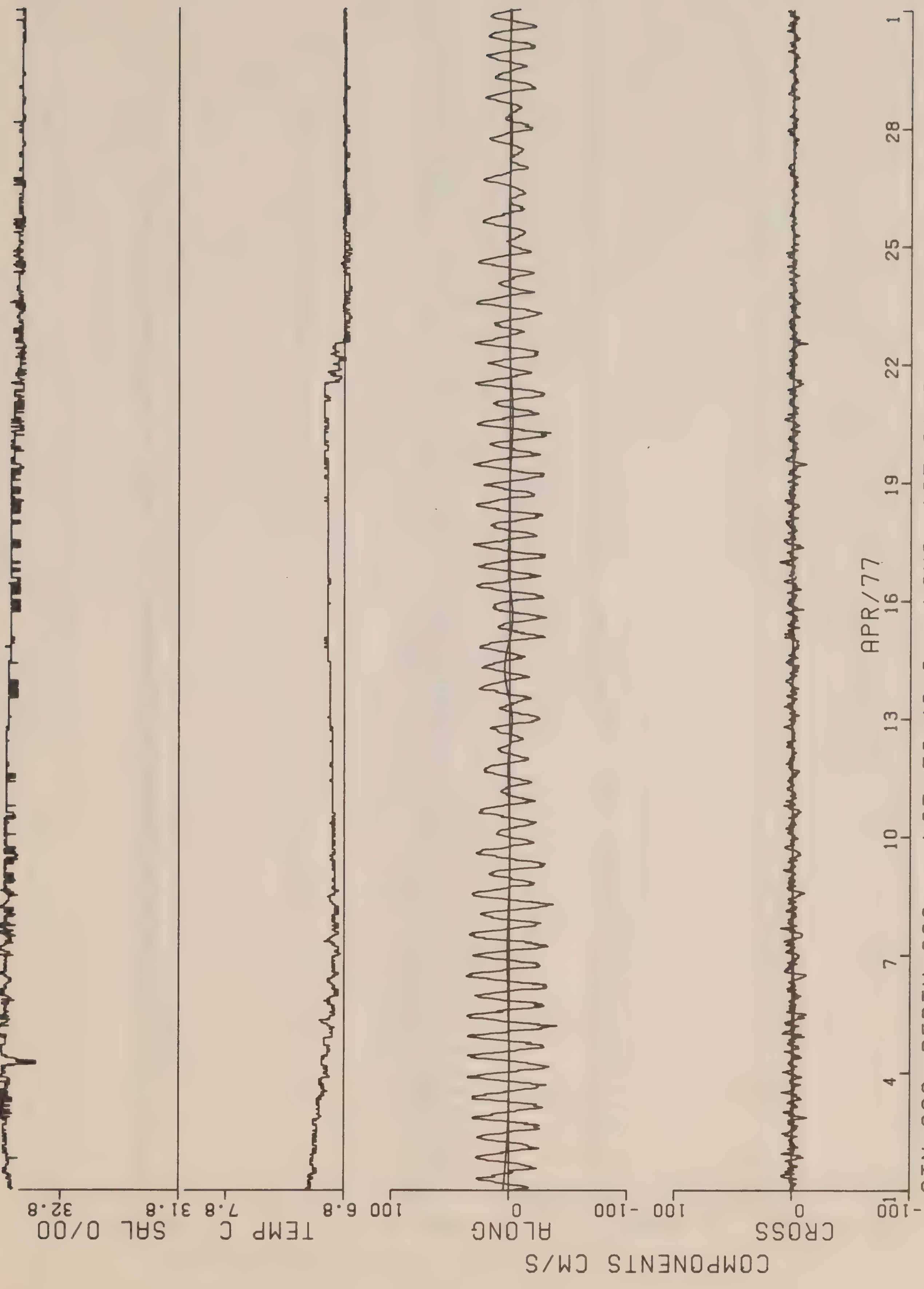
STN Q02 DEPTH 075 LAT 50 46.2 LONG 127 21.9
APR/77
1
4
7
10
13
16
19
22
25
28
1
SAL O/OO
32.0
31.0
TEMP C
8.0
7.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S

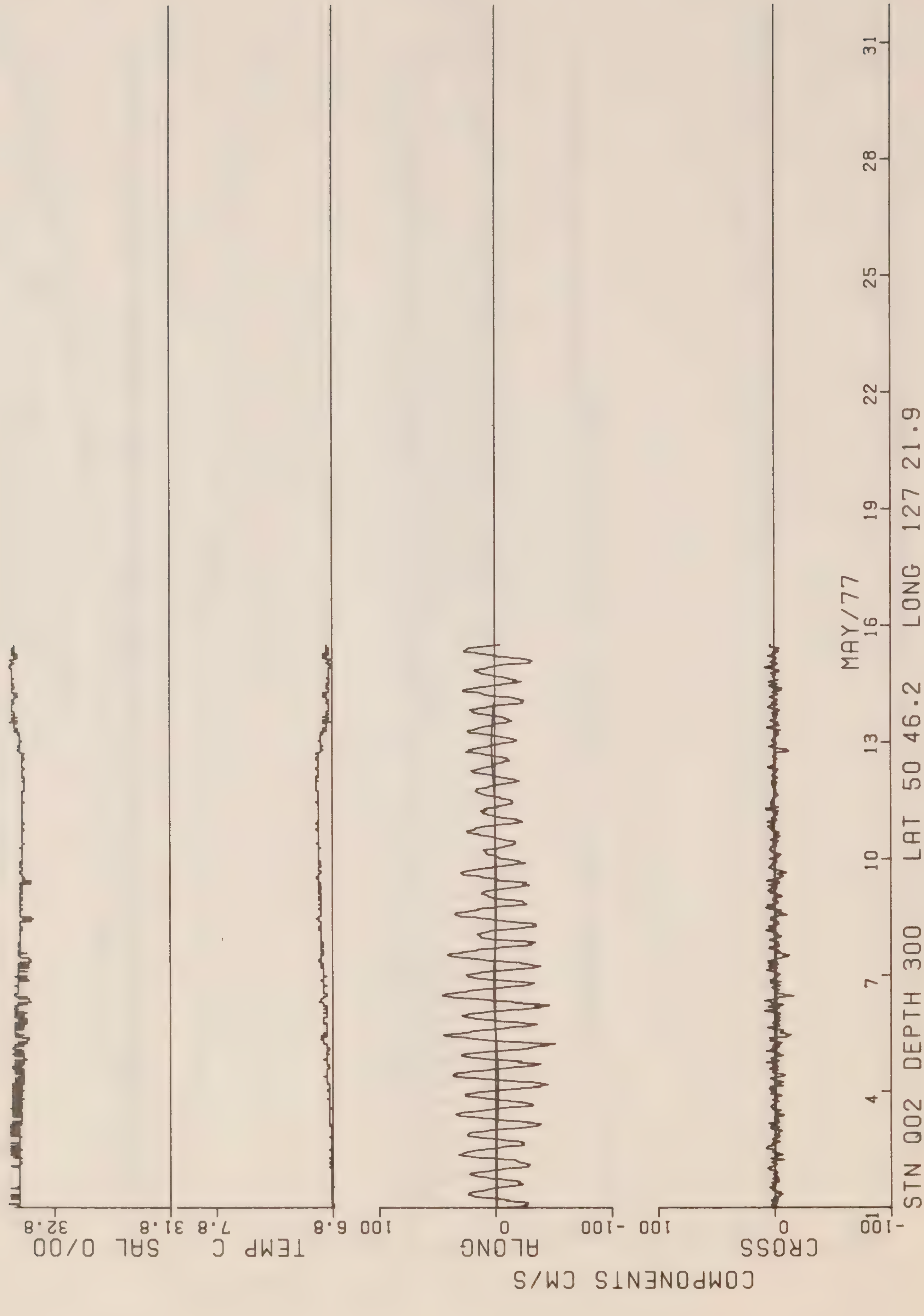

SAL O/OO
32.0
31.0
TEMP C
8.0
7.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
1
4
7
10
13
16
19
22
25
28
31
MAY/77
STN Q02 DEPTH 075 LAT 50 46.2 LONG 127 21.9


SAL O/OO
32.8
31.8
TEMP C
7.8
6.8
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
JAN/77
1
4
7
10
13
16
19
22
25
28
31
STN Q02 DEPTH 300 LAT 50 46.2 LONG 127 21.9

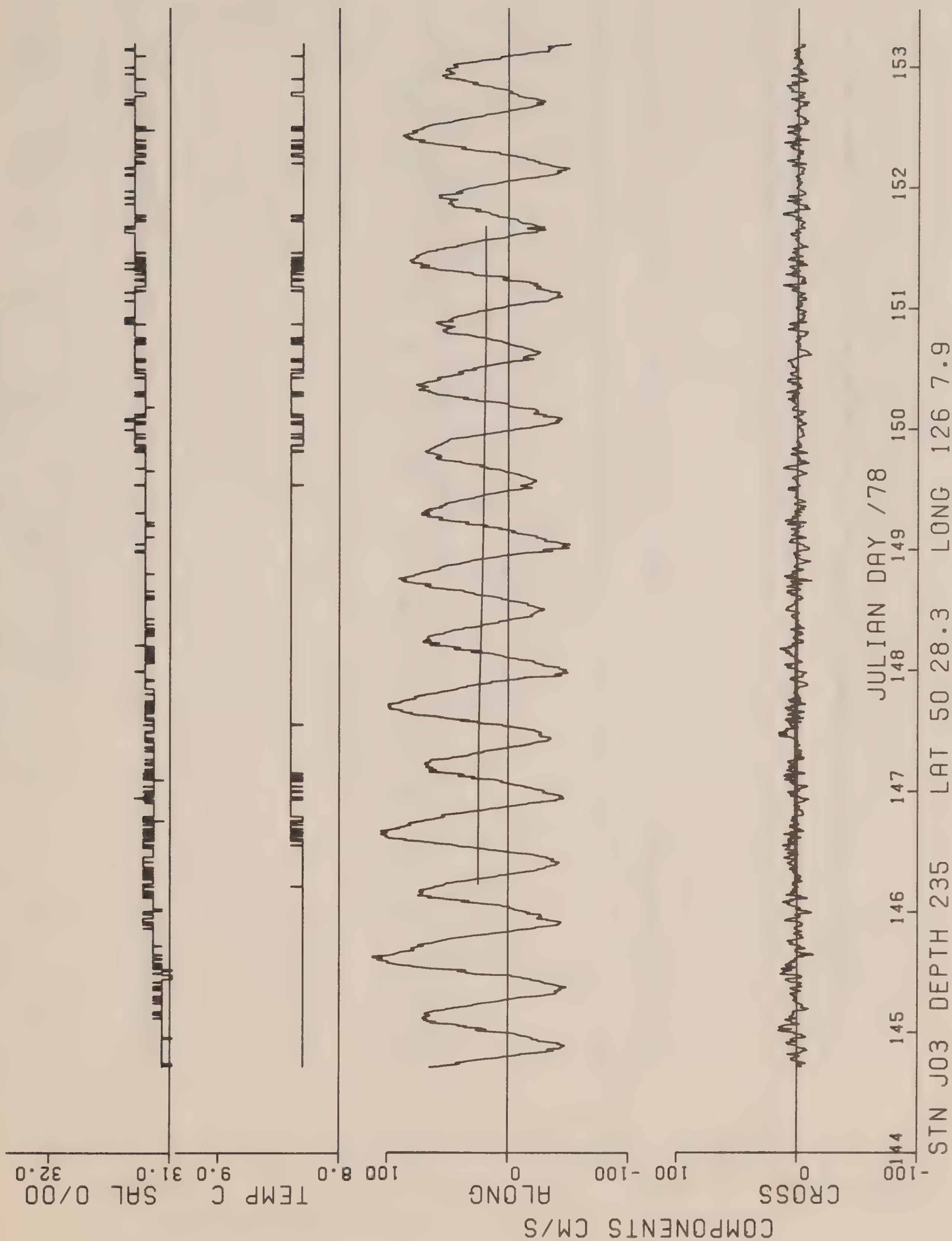

SAL O/OO
32.8
31.8
TEMP C
7.8
6.8
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
STN Q02 DEPTH 300 LAT 50 46.2 LONG 127 21.9
FEB/77
1
4
7
10
13
16
19
22
25
28


SAL O/OO
32.8
31.8
TEMP C
7.8
6.8
100
ALONG
0
-100
COMPONENTS CM/S
100
CROSS
0
-100
MAR/77
1
4
7
10
13
16
19
22
25
28
31
STN Q02 DEPTH 300 LAT 50 46.2 LONG 127 21.9

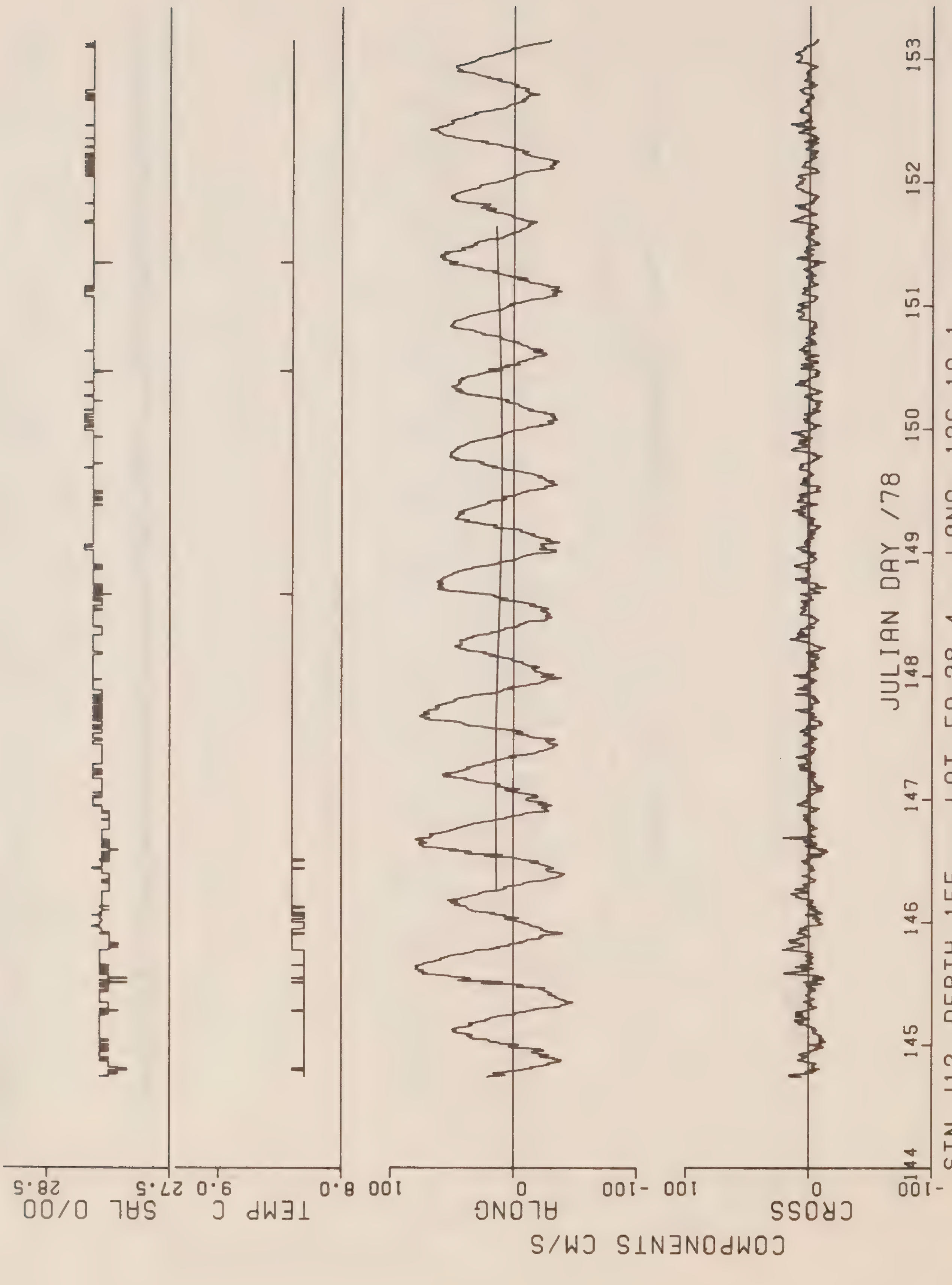

SAL O/OO
32.8
31.8
TEMP C
7.8
6.8
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
1
28
25
22
19
16
13
10
7
4
APR/77
STN Q02 DEPTH 300 LAT 50 46.2 LONG 127 21.9



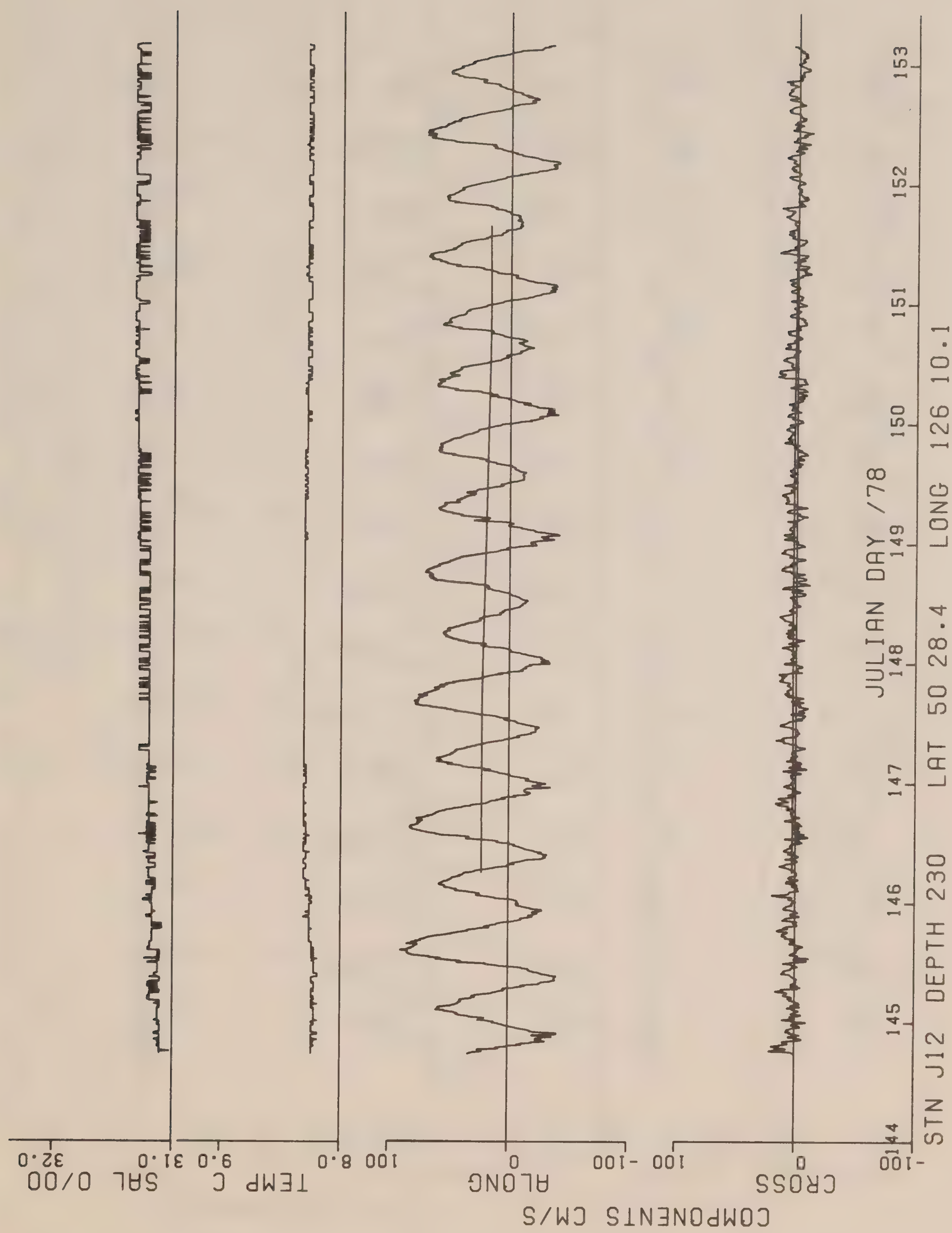
STN Q02 DEPTH 300 LAT 50 46.2 LONG 127 21.9
MAY/77
1 4 7 10 13 16 19 22 25 28 31
SAL O/OO
32.8 31.8
TEMP C
7.8 6.8
ALONG
100 0 -100
CROSS
100 0 -100
COMPONENTS CM/S

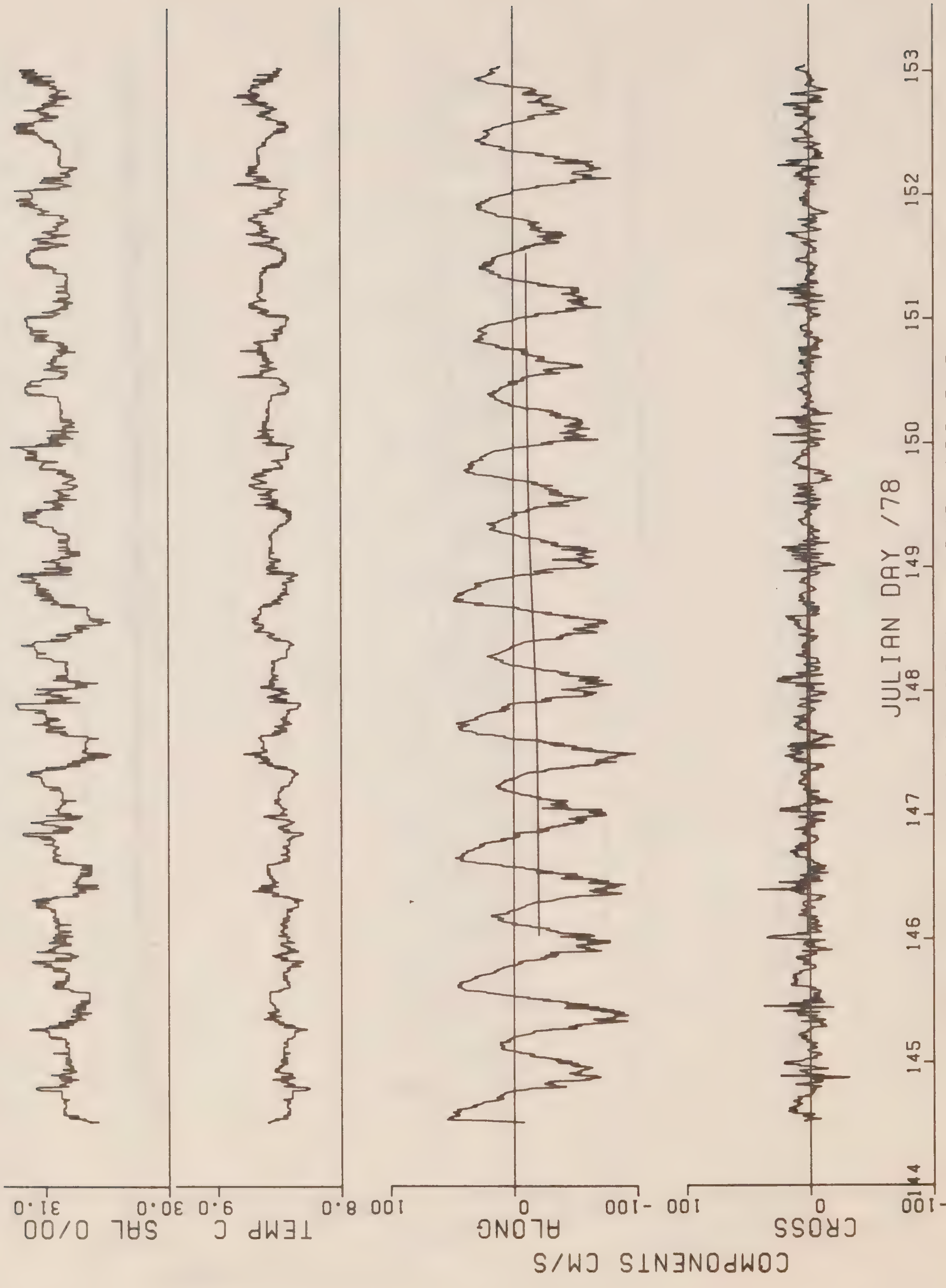


STN J03 DEPTH 235 LAT 50 28.3 LONG 126 7.9
JULIAN DAY /78
144
145
146
147
148
149
150
151
152
153
SAL O/OO
31.0
32.0
TEMP C
8.0
9.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100

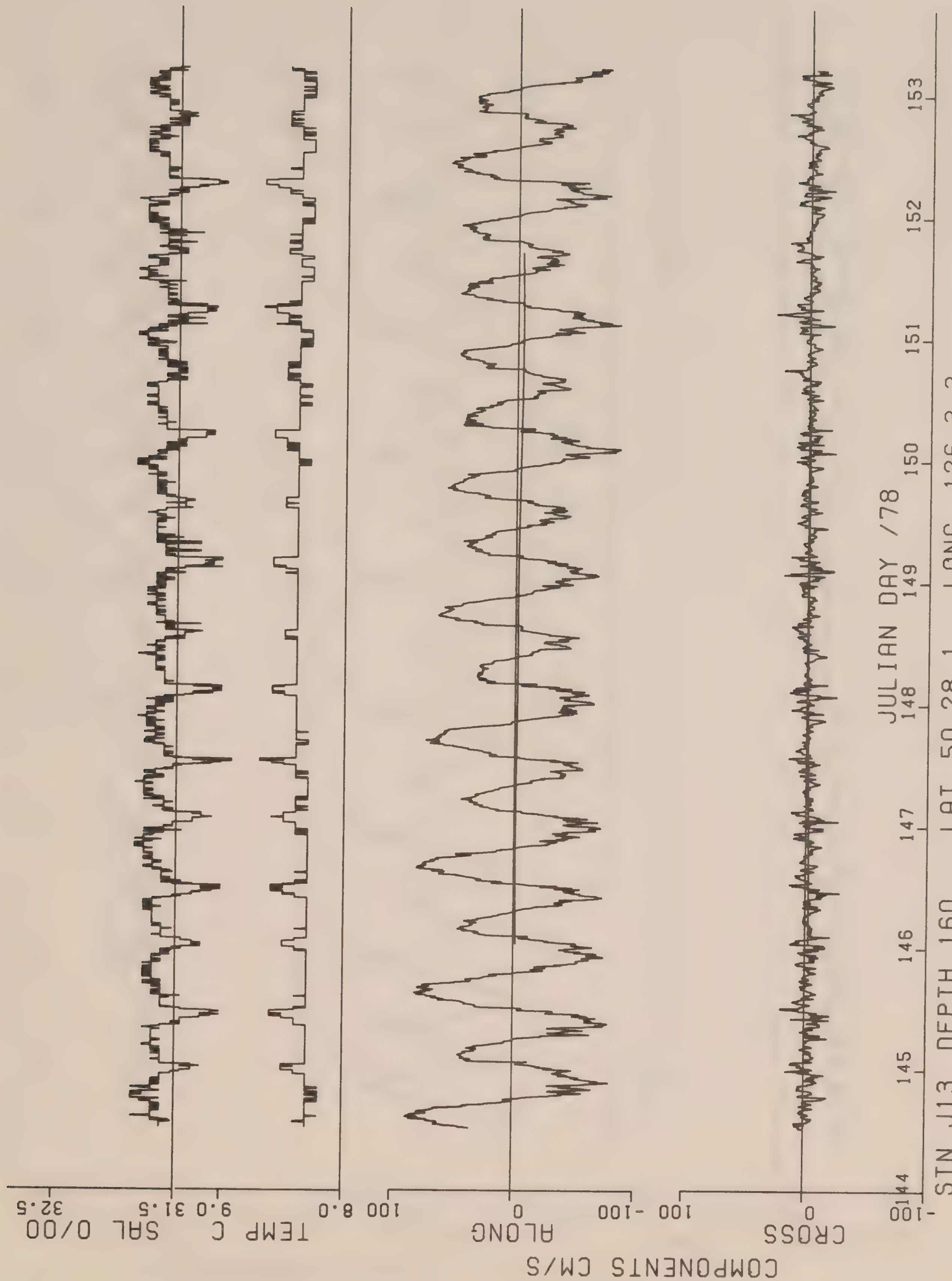


SAL O/OO
28.5
27.5
TEMP C
9.0
8.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
144
145
146
147
148
149
150
151
152
153
JULIAN DAY /78
STN J12 DEPTH 155 LAT 50 28.4 LONG 126 10.1

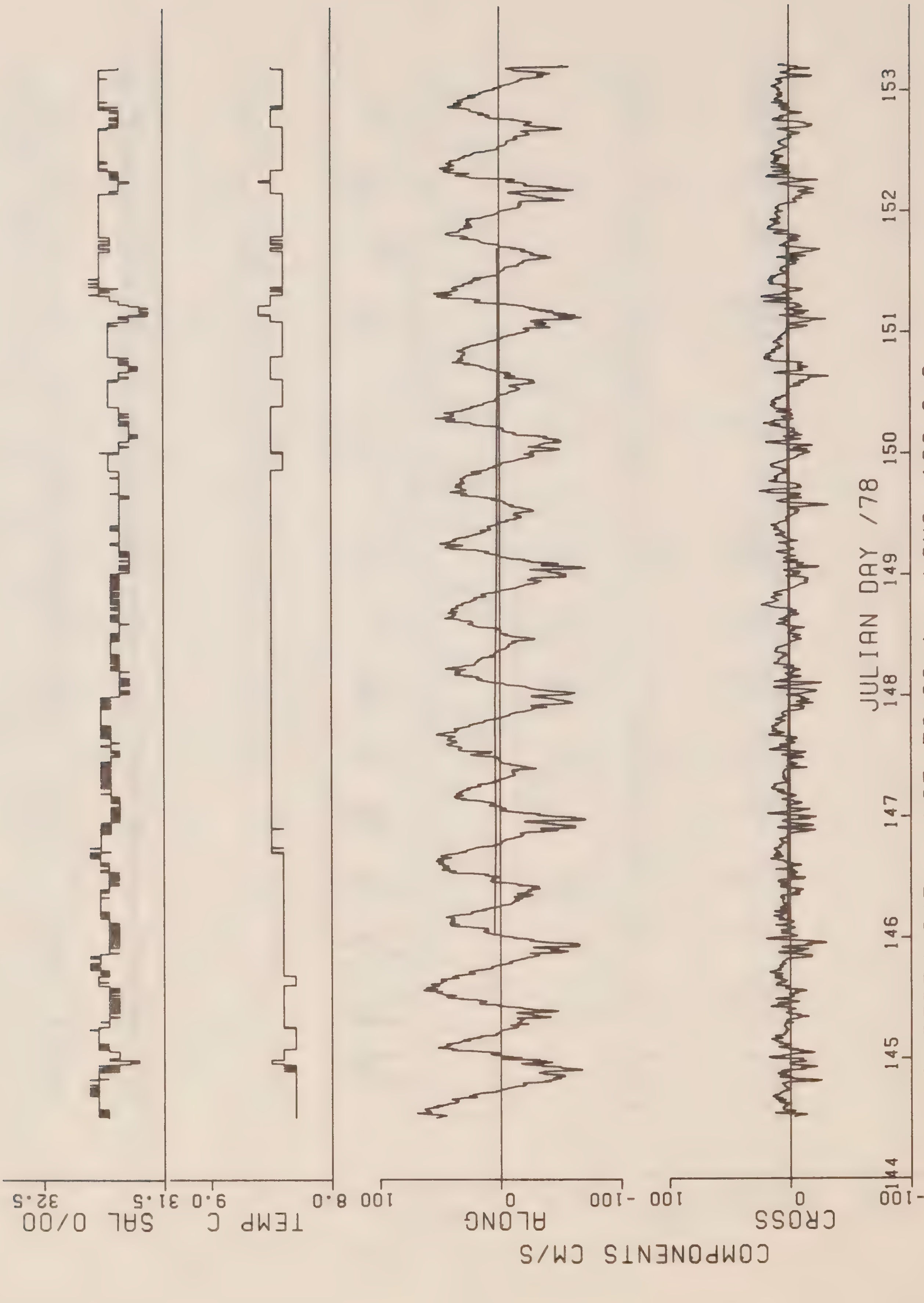

SAL O/OO
32.0
31.0
TEMP C
9.0
8.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
144
145
146
147
148
149
150
151
152
153
JULIAN DAY /78
STN J12 DEPTH 230 LAT 50 28.4 LONG 126 10.1



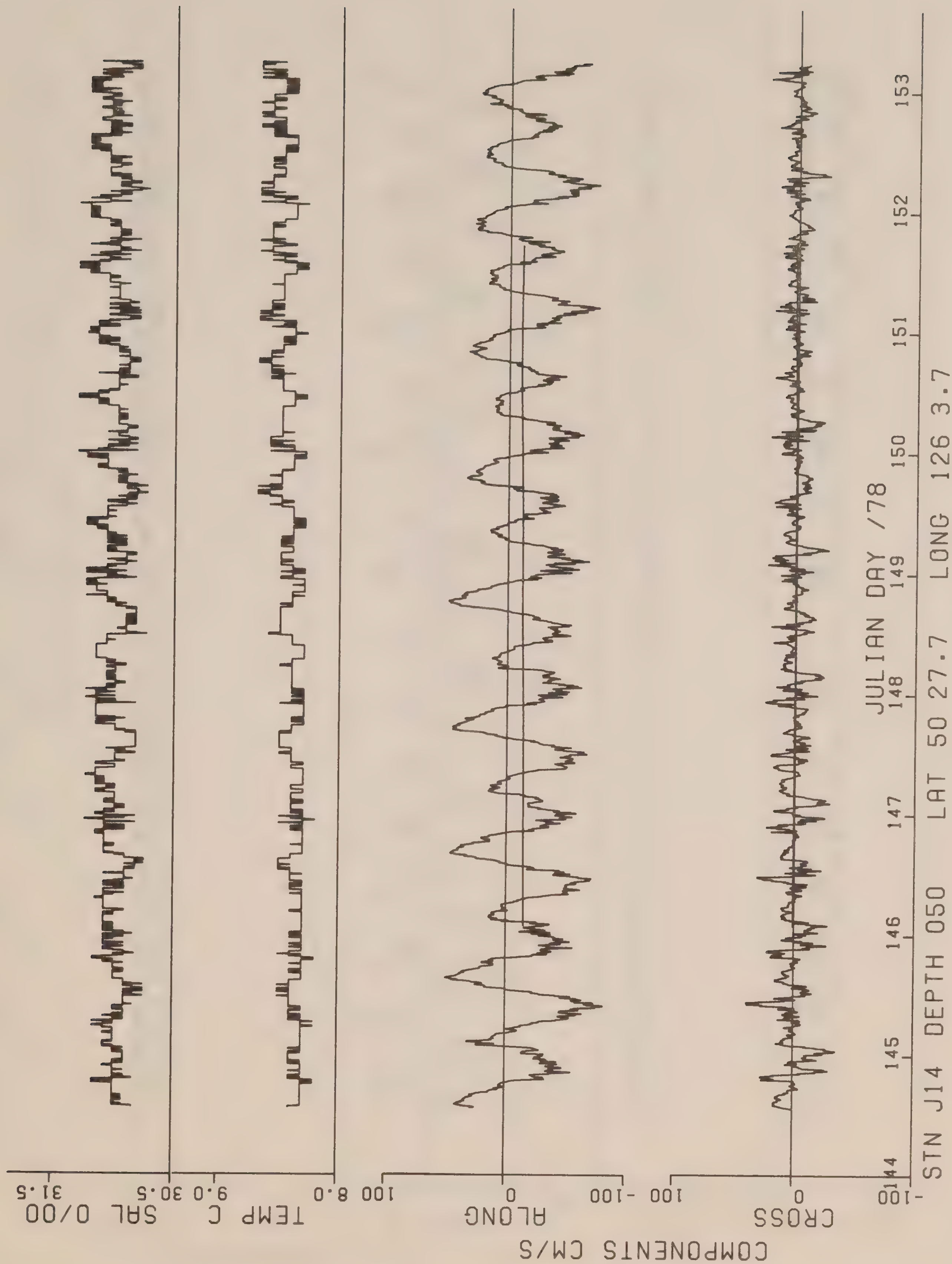
SAL O/OO
31.0
30.0
TEMP C
9.0
8.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
144
145
146
147
148
149
150
151
152
153
JULIAN DAY /78
STN J13 DEPTH 055 LAT 50 28.1 LONG 126 3.3

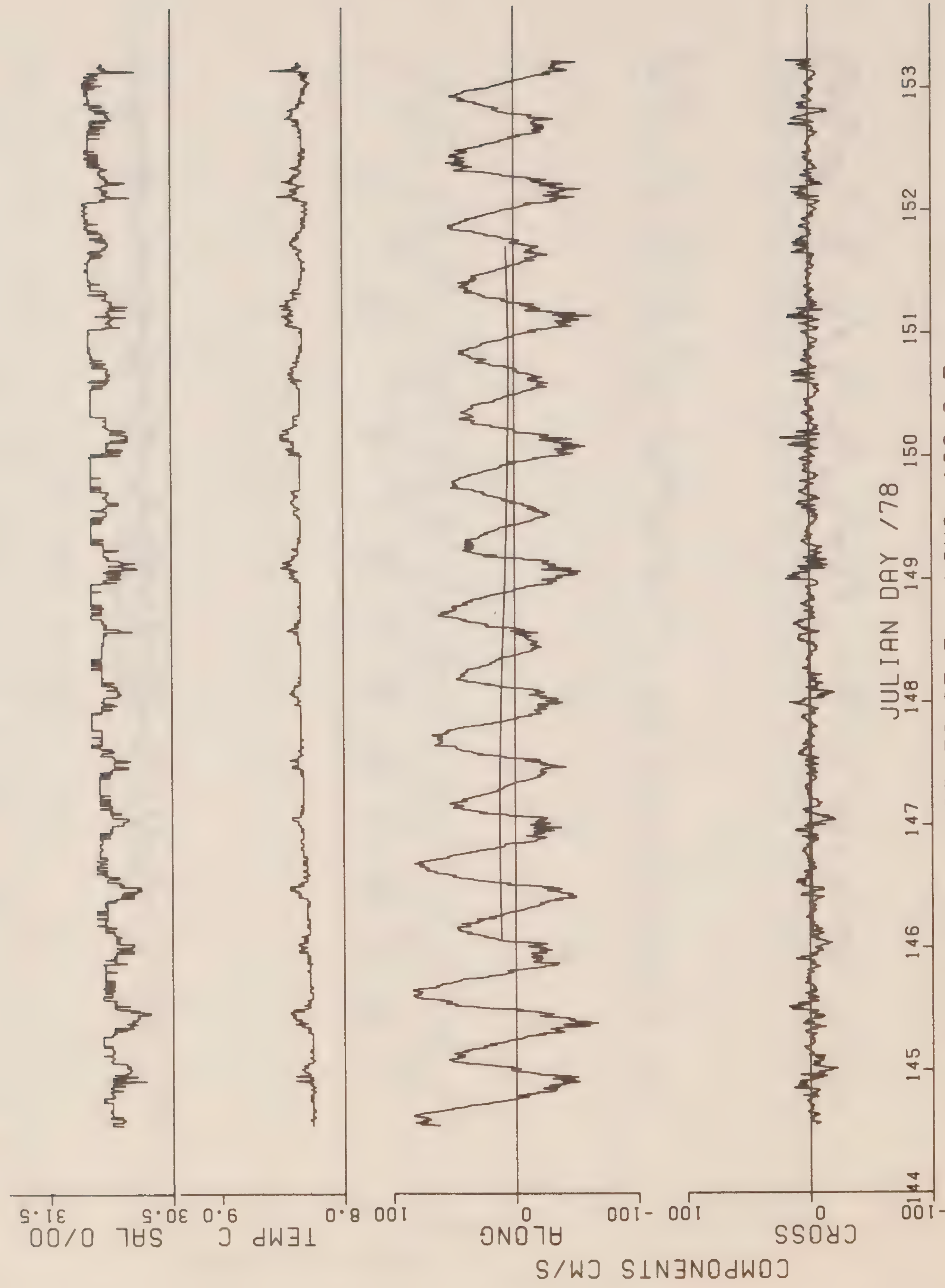


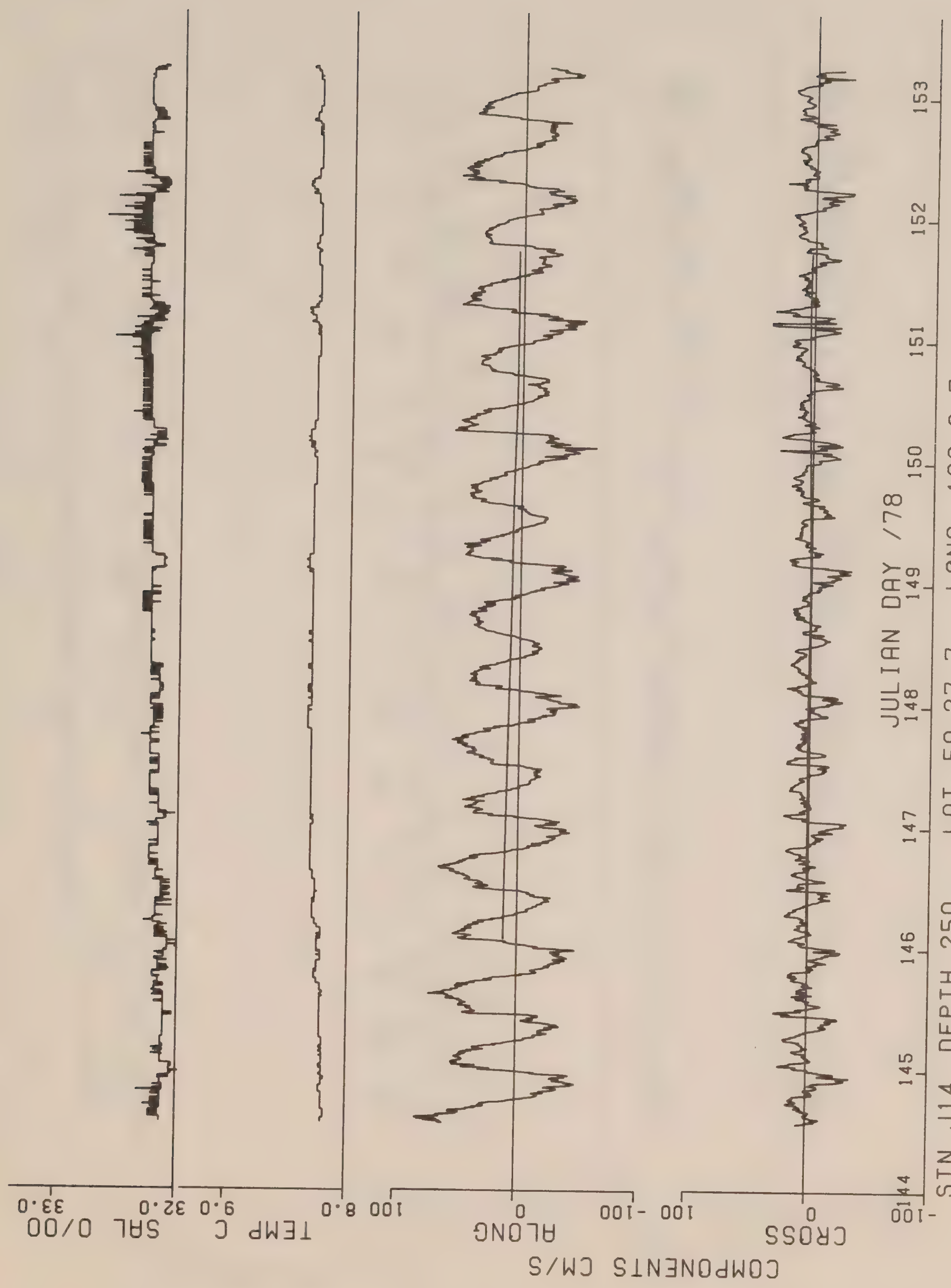
STN J13 DEPTH 160 LAT 50 28.1 LONG 126 3.3
JULIAN DAY /78
144 145 146 147 148 149 150 151 152 153
TEMP C SAL O/OO
32.5 31.5 9.0 8.0
ALONG
100 0 -100
CROSS
100 0 -100
COMPONENTS CM/S

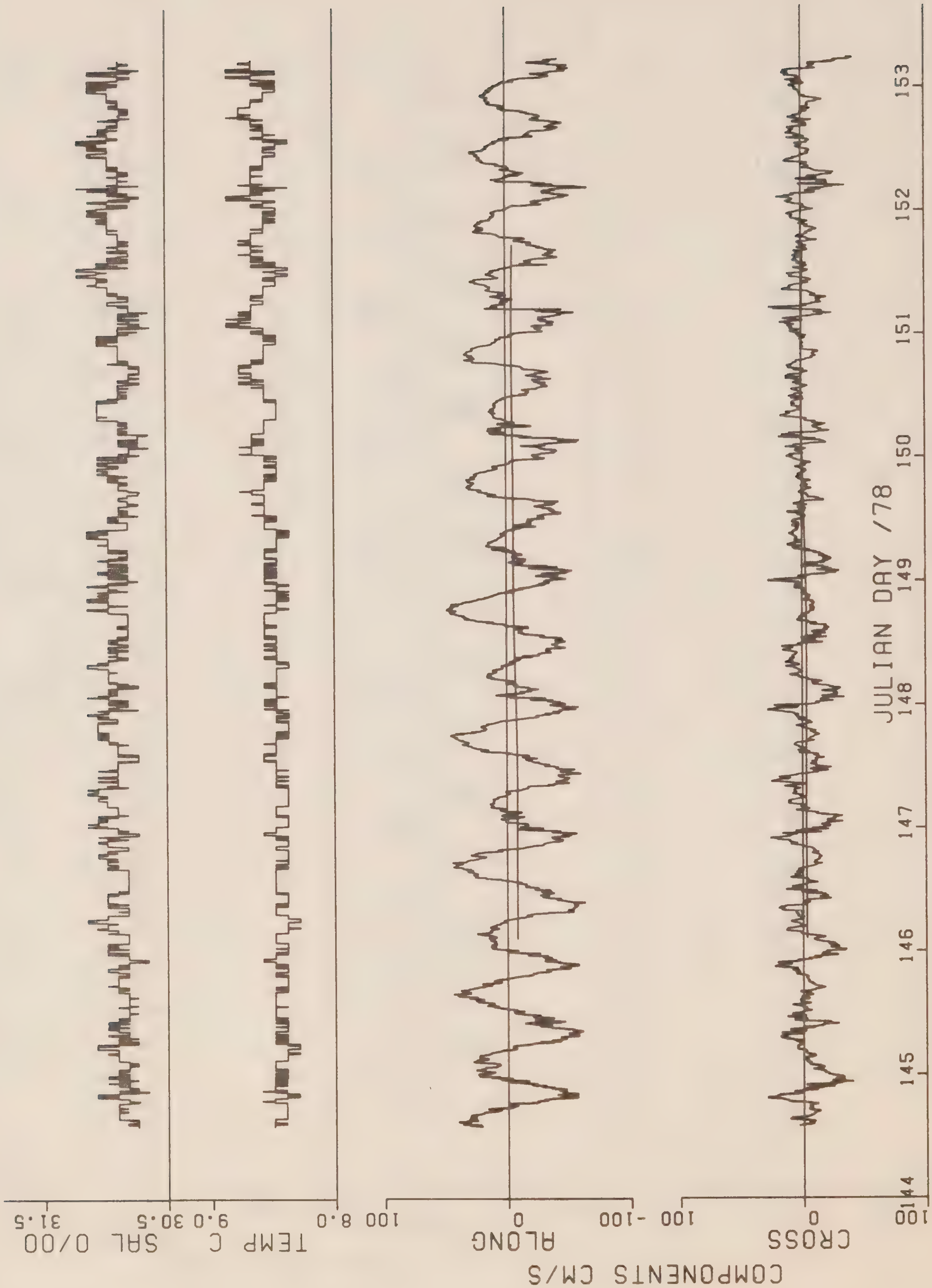


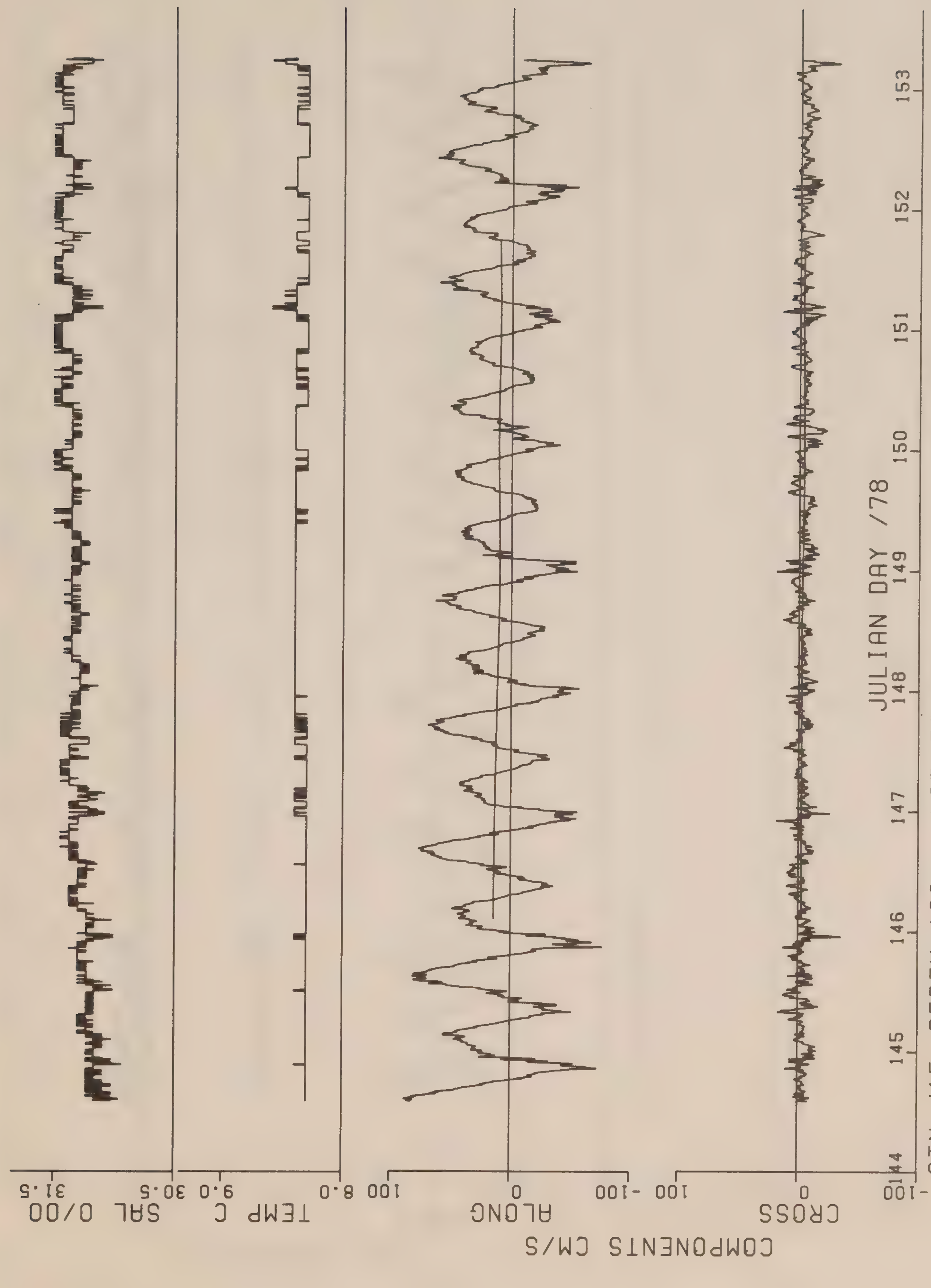
STN J13 DEPTH 245 LAT 50 28.1 LONG 126 3.3
JULIAN DAY /78
144
145
146
147
148
149
150
151
152
153
SAL O/OO
32.5
31.5
TEMP C
9.0
8.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100

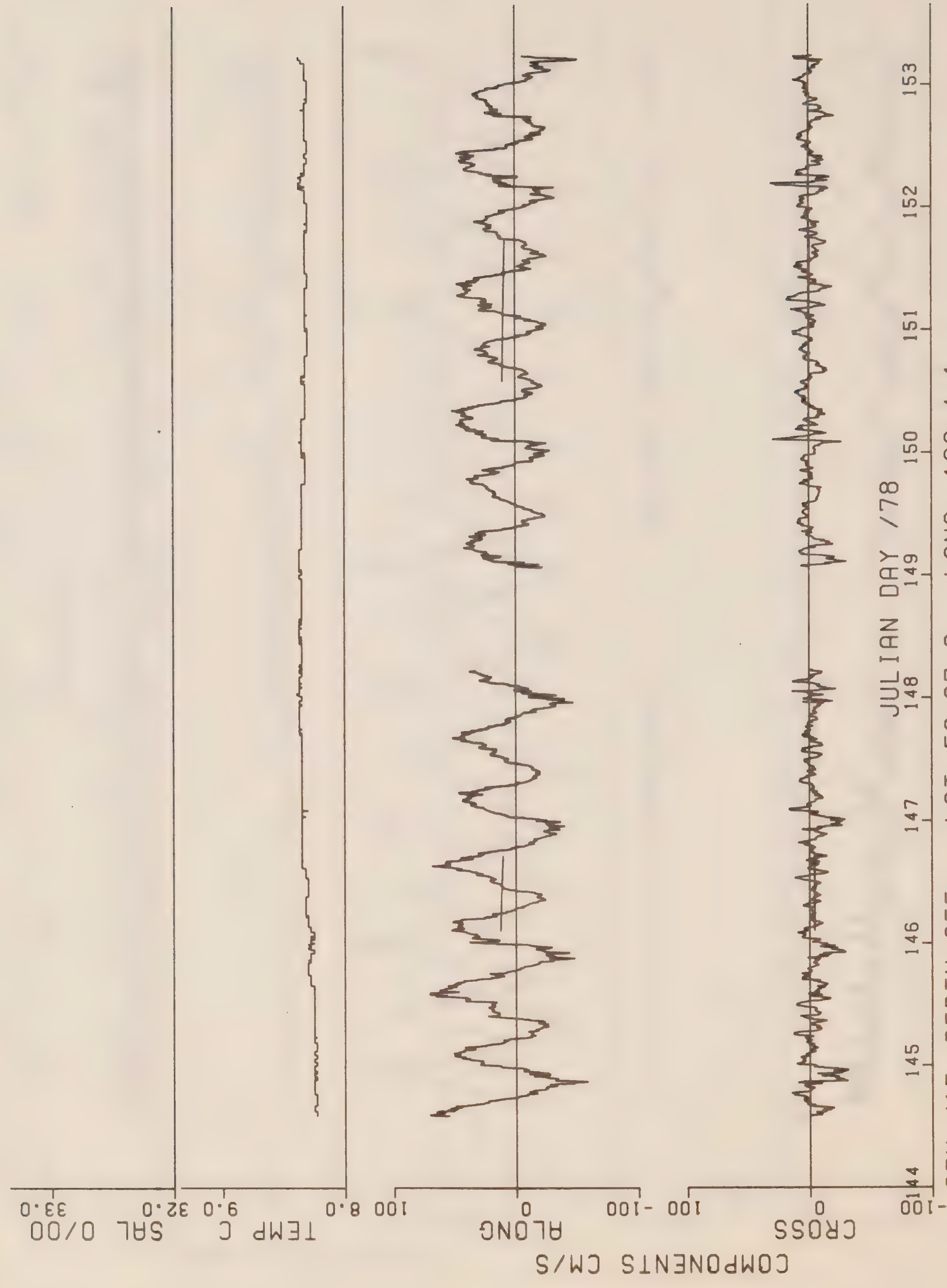

STN J14 DEPTH 050 LAT 50 27.7 LONG 126 3.7
JULIAN DAY /78
144
145
146
147
148
149
150
151
152
153
SAL O/OO
31.5
30.5
TEMP C
9.0
8.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S

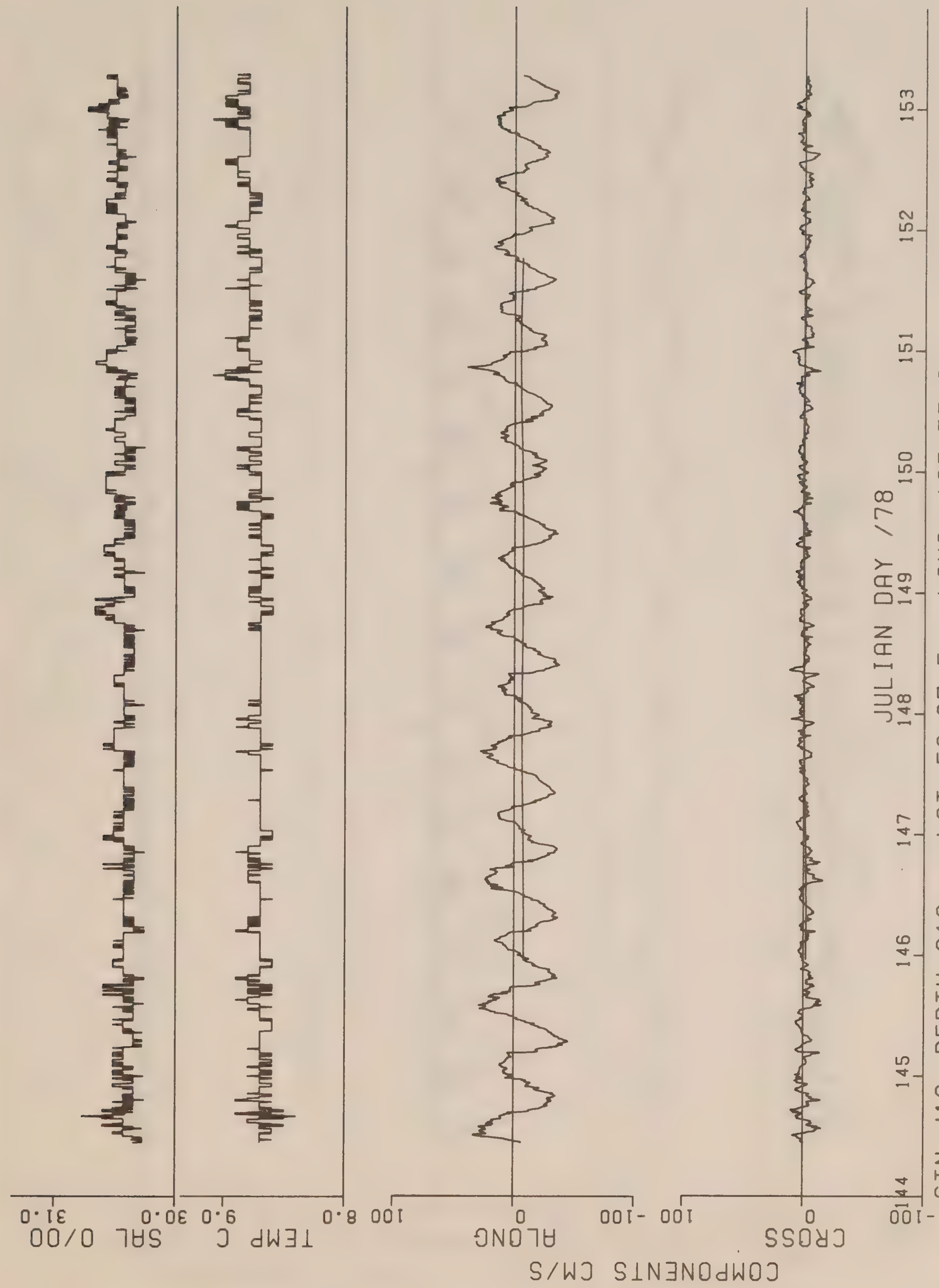

STN J14 DEPTH 155 LAT 50 27.7 LONG 126 3.7
JULIAN DAY /78
144
145
146
147
148
149
150
151
152
153
SAL O/OO
31.5
30.5
TEMP C
9.0
8.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100


SAL O/OO
33.0
32.0
TEMP C
9.0
8.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
144
145
146
147
148
149
150
151
152
153
JULIAN DAY /78
STN J14 DEPTH 250 LAT 50 27.7 LONG 126 3.7

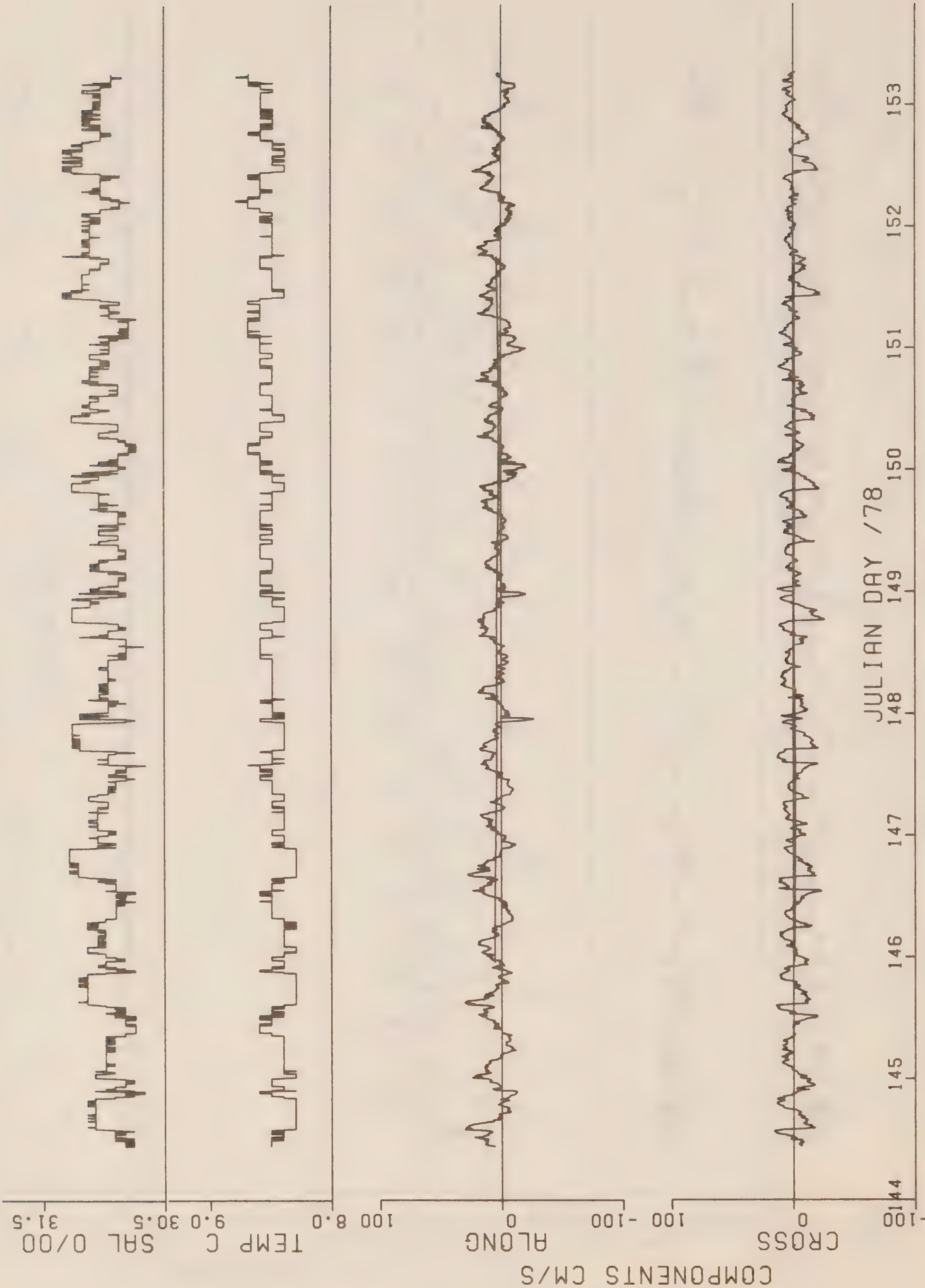

STN J15 DEPTH 055 LAT 50 27.3 LONG 126 4.1
JULIAN DAY /78
144 145 146 147 148 149 150 151 152 153
COMPONENTS CM/S
CROSS
-100 0 100
ALONG
-100 0 100
TEMP C
8.0 9.0
SAL O/OO
30.5 31.5


SAL O/OO
31.5
30.5
TEMP C
9.0
8.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
144
145
146
147
148
149
150
151
152
153
JULIAN DAY /78
STN J15 DEPTH 160 LAT 50 27.3 LONG 126 4.1

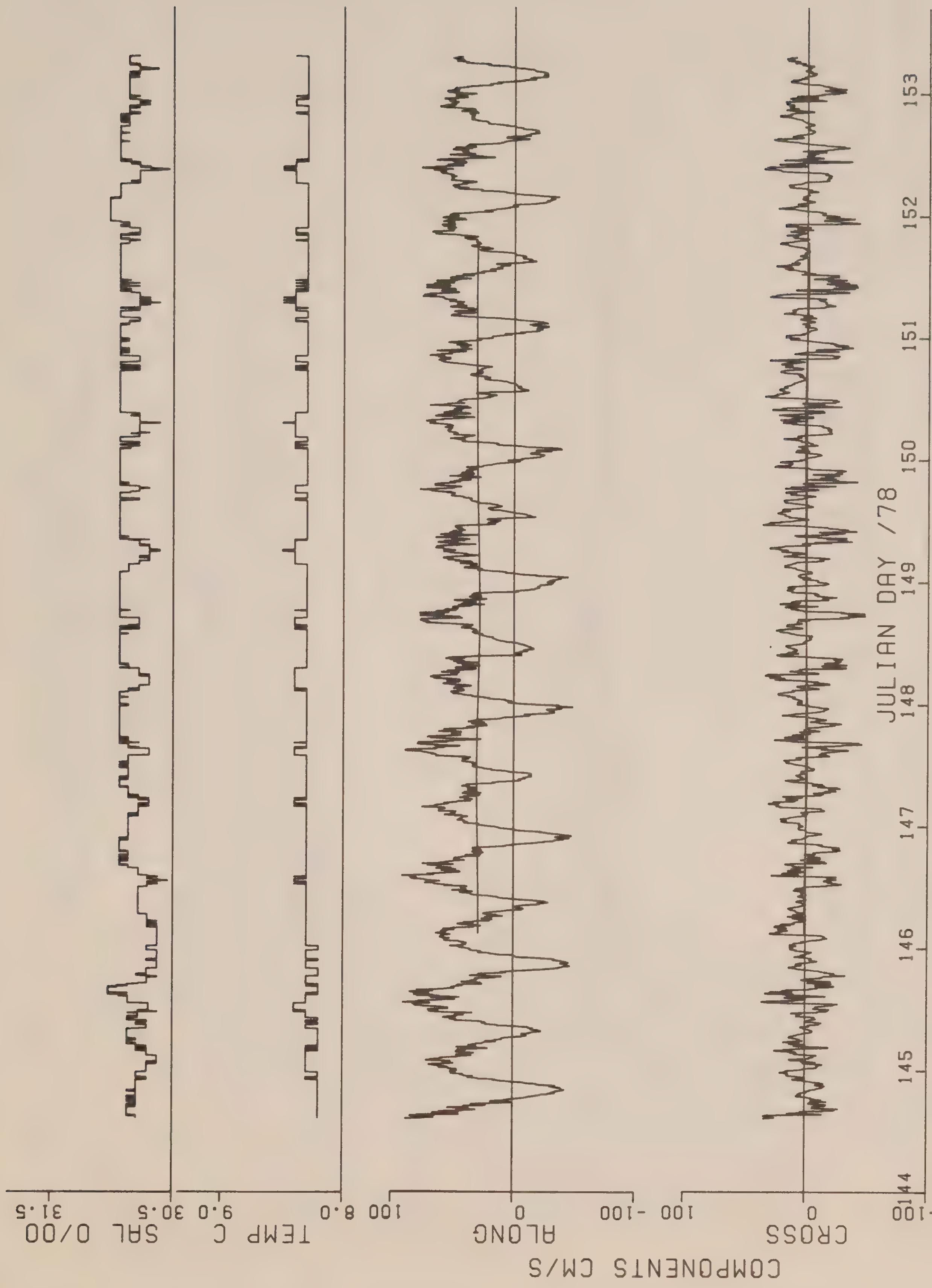

STN J15 DEPTH 255 LAT 50 27.3 LONG 126 4.1
JULIAN DAY /78
144
145
146
147
148
149
150
151
152
153
COMPONENTS CM/S
CROSS
100 0 -100
ALONG
100 0 -100
TEMP C
8.0 9.0
SAL O/OO
32.0 33.0



SAL O/OO
31.0
30.0
TEMP C
9.0
8.0
ALONG
CROSS
COMPONENTS CM/S
100
0
-100
144
145
146
147
148
149
150
151
152
153
JULIAN DAY /78
STN J16 DEPTH 018 LAT 50 27.5 LONG 125 57.6



SAL O/OO
31.5
30.5
TEMP C
9.0
8.0
COMPONENTS CM/S
ALONG
100
0
-100
CROSS
100
0
-100
144
145
146
147
148
149
150
151
152
153
JULIAN DAY /78
STN J16 DEPTH 055 LAT 50 27.5 LONG 125 57.6


SAL O/OO
31.5
30.5
TEMP C
9.0
8.0
ALONG
100
0
-100
CROSS
100
0
-100
COMPONENTS CM/S
144
145
146
147
148
149
150
151
152
153
JULIAN DAY /78
STN J17 DEPTH 195 LAT 50 26.3 LONG 126 0.6

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN 303 DEPTH 020 JOHNSTONE ST. 50 28.3 N 126 8.0 W LENGTH OF RECORD= 43 DAYS
START OF RECORD 35 MN 15 HR 22 DY 4 MO 76 YR RATE OF OBSER.= 6 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 007 | 008 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 18 |
| 10- 19 | 002 | 006 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 11 |
| 20- 29 | 002 | 008 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 12 |
| 30- 39 | 002 | 007 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | | 15 |
| 40- 49 | 007 | 002 | 002 | 003 | | | | | | | | | | | | | | | | | | | | | | 14 |
| 50- 59 | 006 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 60- 69 | 005 | 009 | 005 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 21 |
| 70- 79 | 003 | 006 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | 16 |
| 80- 89 | 007 | 008 | 006 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 23 |
| 90- 99 | 006 | 003 | 009 | 008 | 004 | 001 | 001 | 003 | 002 | | | | | | | | | | | | | | | | | 37 |
| 100-109 | 008 | 012 | 009 | 011 | 007 | 003 | 005 | 005 | 004 | 003 | 006 | 003 | | | | | | | | | | | | | | 76 |
| 110-119 | 006 | 010 | 005 | 004 | 009 | 001 | 007 | 001 | 001 | 002 | 001 | 002 | | | | | | | | | | | | | | 49 |
| 120-129 | 007 | 012 | 020 | 009 | 008 | 003 | | 001 | | 001 | 001 | | | | | | | | | | | | | | | 62 |
| 130-139 | 003 | 006 | 005 | 009 | 002 | 003 | 002 | | | | | | | | | | | | | | | | | | | 30 |
| 140-149 | 006 | 008 | 011 | 008 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 35 |
| 150-159 | 003 | 006 | 007 | 002 | 003 | 003 | | | | | | | | | | | | | | | | | | | | 24 |
| 160-169 | 005 | 009 | 005 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | 26 |
| 170-179 | 001 | 012 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | | 24 |
| 180-189 | 008 | 015 | 004 | 004 | | | | | | | | | | | | | | | | | | | | | | 31 |
| 190-199 | 012 | 013 | 011 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | 45 |
| 200-209 | 010 | 019 | 016 | 006 | 005 | | | | | | | | | | | | | | | | | | | | | 56 |
| 210-219 | 010 | 018 | 021 | 007 | 004 | 001 | | | | | | | | | | | | | | | | | | | | 61 |
| 220-229 | 012 | 023 | 027 | 016 | 004 | 003 | | | | | | | | | | | | | | | | | | | | 85 |
| 230-239 | 010 | 030 | 026 | 021 | 012 | 001 | 003 | | | | | | | | | | | | | | | | | | | 103 |
| 240-249 | 002 | 026 | 035 | 048 | 030 | 021 | 007 | 002 | 002 | | | | | | | | | | | | | | | | | 173 |
| 250-259 | 009 | 043 | 050 | 070 | 081 | 050 | 052 | 033 | 018 | 020 | 017 | 009 | 003 | 003 | 001 | | | | | | | | | | | 459 |
| 260-269 | 011 | 025 | 069 | 105 | 102 | 127 | 132 | 165 | 113 | 107 | 080 | 058 | 040 | 022 | 021 | 008 | 002 | | 001 | | | | | | | 1188 |
| 270-279 | 018 | 048 | 059 | 083 | 167 | 154 | 158 | 224 | 244 | 267 | 178 | 133 | 077 | 056 | 053 | 019 | 002 | 003 | 001 | | | | | | | 1944 |
| 280-289 | 011 | 023 | 053 | 073 | 098 | 059 | 086 | 083 | 072 | 083 | 065 | 038 | 013 | 020 | 006 | | | | | | | | | | | 789 |
| 290-299 | 010 | 024 | 043 | 039 | 034 | 025 | 025 | 023 | 008 | 008 | | 001 | 004 | 001 | | | | | | | | | | | | 245 |
| 300-309 | 007 | 021 | 019 | 025 | 011 | 007 | 002 | | 001 | 001 | | | | | | | | | | | | | | | | 94 |
| 310-319 | 010 | 014 | 013 | 012 | 008 | 004 | | 001 | | | | | | | | | | | | | | | | | | 62 |
| 320-329 | 007 | 021 | 007 | 010 | 002 | | 003 | | | | | | | | | | | | | | | | | | | 50 |
| 330-339 | 006 | 016 | 009 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | 40 |
| 340-349 | 005 | 020 | 004 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | 35 |
| 350-359 | 003 | 011 | 005 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | 23 |
| | | 551 | | 611 | | 467 | | 541 | | 492 | | 244 | | 102 | | 27 | | 3 | | 0 | | 0 | | 0 | | 5993 |
| | 347 | | 580 | | 602 | | 483 | | 471 | | 348 | | 137 | | 81 | | 4 | | 2 | | 0 | | 0 | | 0 | |

NUMBER OF ZERO RATES 211

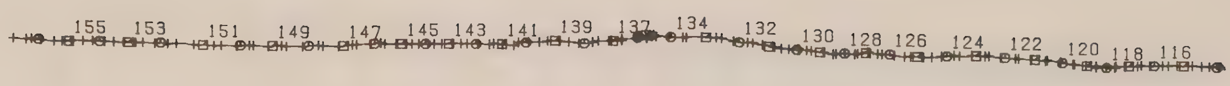
JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM

△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
⊙EVEN NUMBERED DAYS
+SIX HOUR INTERVAL

| STN | DEPTH | AREA | DAY/YR | NO DAYS |
|---|---|---|---|---|
| J03 | 020M | 8200 | 113/76 | 43 |

SCALE 50 KM

N



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J03 DEPTH 225 JOHNSTONE STRAIT 50 28.3 N 126 8.0 W LENGTH OF RECORD= 54 DAYS

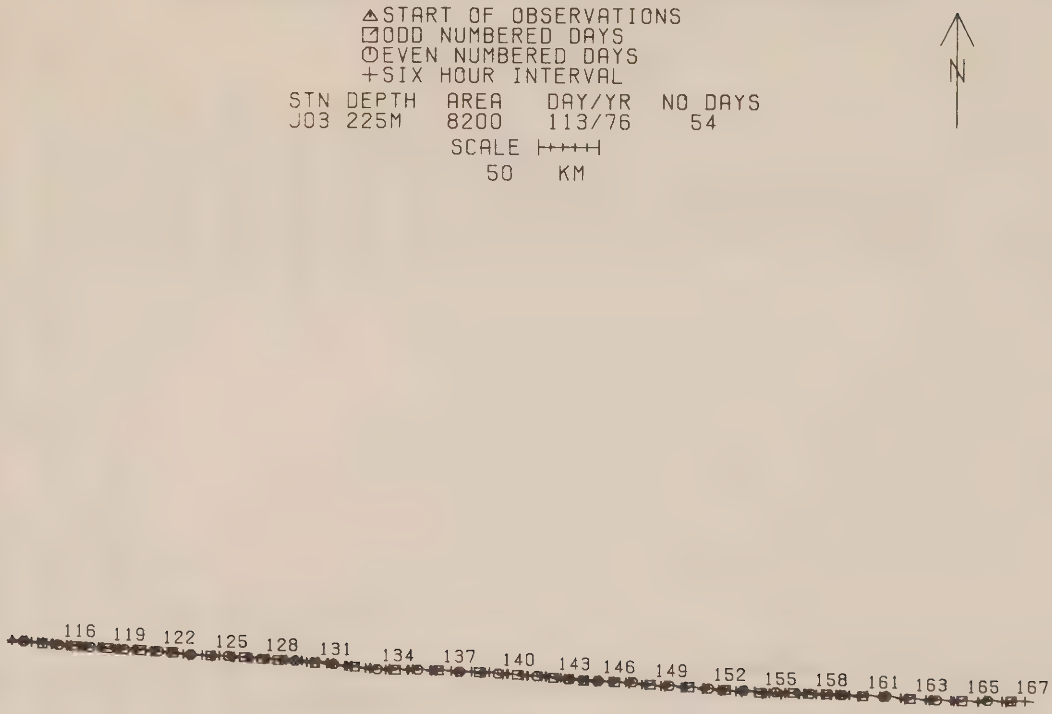
START OF RECORD 7 MN 16 HR 22 DY 4 MO 76 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 006 | 014 | 004 | | | | | | | | | | | | | | | | | | | | | | | 24 |
| 10- 19 | 005 | 010 | 005 | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 20- 29 | 005 | 009 | 012 | | 001 | | | | | | | | | | | | | | | | | | | | | 27 |
| 30- 39 | 005 | 007 | 012 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | 31 |
| 40- 49 | 007 | 015 | 018 | 008 | 004 | 001 | | | | | | | | | | | | | | | | | | | | 53 |
| 50- 59 | 004 | 011 | 013 | 016 | 006 | 001 | | | | | | | | | | | | | | | | | | | | 51 |
| 60- 69 | 002 | 012 | 017 | 024 | 030 | 014 | 008 | 002 | 001 | | | | | | | | | | | | | | | | | 110 |
| 70- 79 | 002 | 010 | 021 | 036 | 023 | 027 | 017 | 011 | 003 | | 001 | | | | | | | | | | | | | | | 151 |
| 80- 89 | 001 | 011 | 019 | 020 | 026 | 025 | 032 | 032 | 024 | 044 | 034 | 026 | 027 | 018 | 006 | 004 | | | | | | | | | | 349 |
| 90- 99 | 001 | 013 | 023 | 026 | 046 | 060 | 078 | 105 | 123 | 159 | 156 | 129 | 167 | 198 | 085 | 084 | 067 | 045 | 060 | 024 | 017 | 005 | | | | 1671 |
| 100-109 | 005 | 015 | 028 | 038 | 047 | 049 | 057 | 051 | 042 | 038 | 031 | 015 | 012 | 011 | 012 | 027 | 024 | 016 | 004 | 005 | 001 | 001 | | | | 529 |
| 110-119 | 002 | 013 | 024 | 033 | 027 | 015 | 003 | 001 | | | | | | | | | | | | | | | | | | 118 |
| 120-129 | 001 | 017 | 019 | 011 | | | | | | | | | | | | | | | | | | | | | | 48 |
| 130-139 | 003 | 014 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | 26 |
| 140-149 | 005 | 013 | 004 | | | | | | | | | | | | | | | | | | | | | | | 22 |
| 150-159 | 007 | 011 | 004 | | | | | | | | | | | | | | | | | | | | | | | 22 |
| 160-169 | 006 | 011 | | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 170-179 | 010 | 007 | | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 180-189 | 011 | 009 | | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 190-199 | 006 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 200-209 | 006 | 010 | | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 210-219 | 008 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 220-229 | 006 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 230-239 | 006 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 240-249 | 010 | 019 | 005 | | | | | | | | | | | | | | | | | | | | | | | 34 |
| 250-259 | 005 | 018 | 012 | 003 | 002 | 002 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | 46 |
| 260-269 | 001 | 020 | 024 | 020 | 041 | 043 | 048 | 062 | 032 | 022 | 008 | | | | | | | | | | | | | | | 321 |
| 270-279 | 003 | 025 | 044 | 056 | 078 | 086 | 128 | 119 | 081 | 069 | 023 | 003 | | | | | | | | | | | | | | 715 |
| 280-289 | 004 | 018 | 039 | 051 | 057 | 059 | 047 | 027 | 019 | 012 | 002 | | | | | | | | | | | | | | | 335 |
| 290-299 | 005 | 014 | 016 | 032 | 027 | 014 | 008 | 003 | 001 | | | | | | | | | | | | | | | | | 120 |
| 300-309 | 003 | 015 | 025 | 020 | 006 | 009 | 001 | | | | | | | | | | | | | | | | | | | 79 |
| 310-319 | 004 | 010 | 014 | 015 | | 004 | | | | | | | | | | | | | | | | | | | | 47 |
| 320-329 | 004 | 013 | 017 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | 38 |
| 330-339 | 006 | 008 | 010 | | | | | | | | | | | | | | | | | | | | | | | 24 |
| 340-349 | 005 | 010 | 010 | 001 | | | | | | | | | | | | | | | | | | | | | | 26 |
| 350-359 | 006 | 011 | 006 | | 001 | 001 | | | | | | | | | | | | | | | | | | | | 25 |
| | | 442 | | 420 | | 410 | | 414 | | 344 | | 173 | | 227 | | 115 | | 61 | | 29 | | 6 | | 0 | | 5192 |
| | 176 | | 458 | | 424 | | 429 | | 327 | | 255 | | 206 | | 103 | | 91 | | 64 | | 18 | | 0 | | 0 | |

NUMBER OF ZERO RATES 4

JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J06 DEPTH 020 JOHNSTONE ST. 50 29.6 N 126 17.7 W LENGTH OF RECORD= 62 DAYS

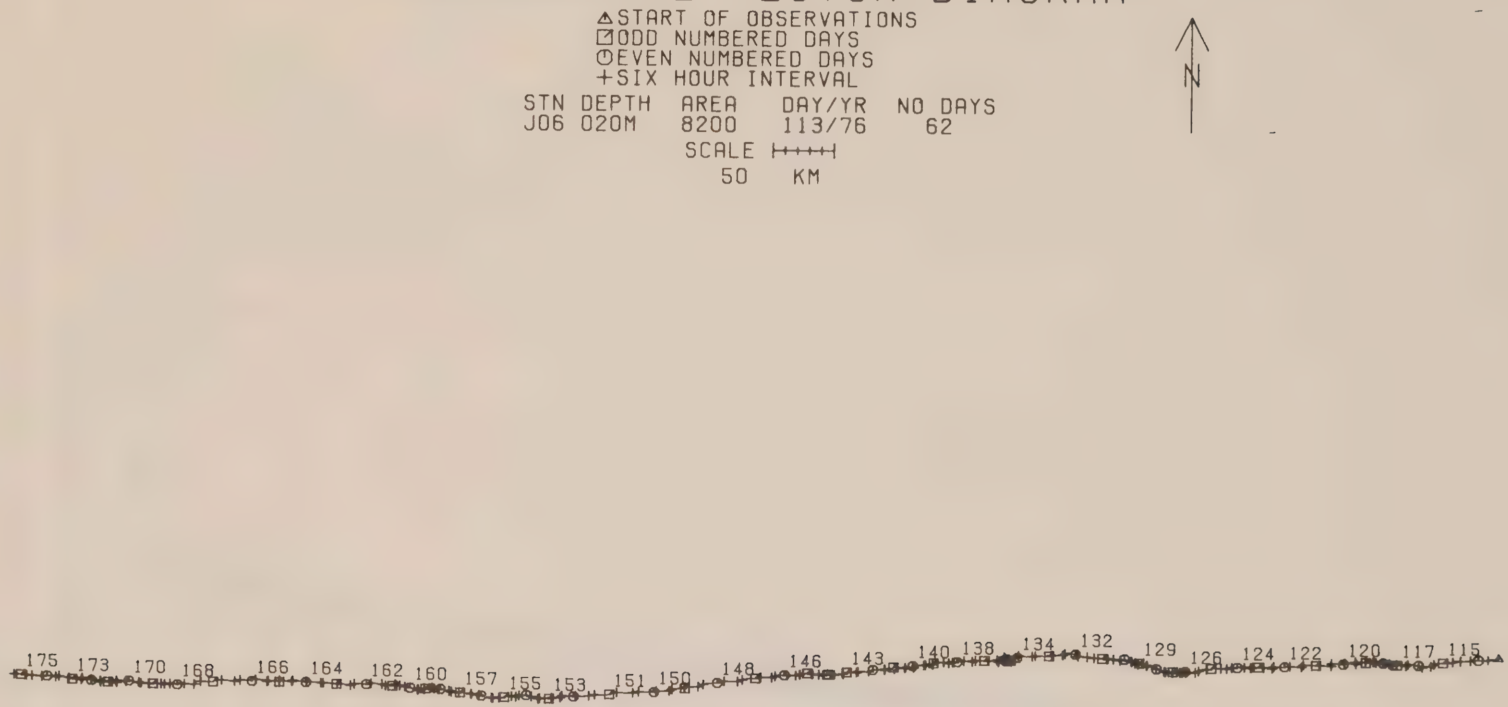
START OF RECORD 15 MN 12 HR 22 DY 4 MO 76 YR RATE OF OBSER.= 6 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 007 | 008 | 003 | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 10- 19 | 002 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 20- 29 | 003 | 006 | 002 | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 30- 39 | 006 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 40- 49 | 004 | 006 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 13 |
| 50- 59 | 007 | 013 | 006 | 004 | | | | | | | | | | | | | | | | | | | | | | 30 |
| 60- 69 | 006 | 018 | 015 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 41 |
| 70- 79 | 009 | 015 | 015 | 007 | 002 | 002 | 001 | | | | | | | | | | | | | | | | | | | 51 |
| 80- 89 | 010 | 030 | 027 | 017 | 009 | 009 | 003 | 001 | | | | | | | | | | | | | | | | | | 106 |
| 90- 99 | 008 | 033 | 042 | 045 | 026 | 012 | 007 | 005 | 003 | | | | | | | | | | | | | | | | | 181 |
| 100-109 | 014 | 032 | 039 | 044 | 048 | 010 | 005 | 002 | | | | | | | | | | | | | | | | | | 194 |
| 110-119 | 011 | 037 | 050 | 052 | 051 | 006 | 002 | 001 | | | | | | | | | | | | | | | | | | 210 |
| 120-129 | 009 | 039 | 048 | 040 | 028 | 006 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | 174 |
| 130-139 | 013 | 040 | 034 | 029 | 018 | | | | | | | | | | | | | | | | | | | | | 134 |
| 140-149 | 013 | 017 | 053 | 036 | 008 | 001 | | | | | | | | | | | | | | | | | | | | 128 |
| 150-159 | 007 | 035 | 042 | 021 | 005 | | | | | | | | | | | | | | | | | | | | | 110 |
| 160-169 | 012 | 033 | 028 | 018 | 002 | | | | | | | | | | | | | | | | | | | | | 93 |
| 170-179 | 013 | 030 | 041 | 017 | 003 | | | | | | | | | | | | | | | | | | | | | 104 |
| 180-189 | 013 | 036 | 030 | 023 | 003 | | | | | | | | | | | | | | | | | | | | | 105 |
| 190-199 | 016 | 029 | 033 | 015 | | | | | | | | | | | | | | | | | | | | | | 93 |
| 200-209 | 018 | 041 | 045 | 030 | 003 | | | | | | | | | | | | | | | | | | | | | 137 |
| 210-219 | 014 | 041 | 042 | 043 | 003 | | | | | | | | | | | | | | | | | | | | | 143 |
| 220-229 | 014 | 037 | 043 | 043 | 003 | 001 | | | | | | | | | | | | | | | | | | | | 141 |
| 230-239 | 015 | 042 | 058 | 046 | 023 | 003 | | 001 | | | | | | | | | | | | | | | | | | 188 |
| 240-249 | 013 | 029 | 060 | 048 | 041 | 021 | 011 | 003 | | | | | | | | | | | | | | | | | | 226 |
| 250-259 | 011 | 037 | 063 | 064 | 076 | 079 | 040 | 028 | 020 | 006 | 001 | | | | | | | | | | | | | | | 425 |
| 260-269 | 017 | 020 | 067 | 086 | 123 | 109 | 184 | 135 | 148 | 139 | 116 | 103 | 102 | 091 | 038 | 013 | 004 | 001 | | | | | | | | 1496 |
| 270-279 | 005 | 024 | 051 | 080 | 111 | 157 | 180 | 226 | 245 | 284 | 246 | 184 | 188 | 133 | 075 | 042 | 014 | 004 | | | | | | | | 2249 |
| 280-289 | 006 | 023 | 028 | 062 | 110 | 089 | 113 | 102 | 101 | 085 | 080 | 055 | 047 | 016 | 007 | 002 | | | | | | | | | | 926 |
| 290-299 | 008 | 017 | 021 | 036 | 068 | 049 | 035 | 006 | 006 | 002 | | 001 | | | | | | | | | | | | | | 249 |
| 300-309 | 004 | 008 | 021 | 036 | 028 | 019 | 001 | | | | | | | | | | | | | | | | | | | 117 |
| 310-319 | 008 | 019 | 012 | 015 | 009 | 003 | 003 | | | | | | | | | | | | | | | | | | | 69 |
| 320-329 | 006 | 019 | 008 | 006 | 003 | | | | | | | | | | | | | | | | | | | | | 42 |
| 330-339 | 004 | 014 | 011 | 002 | | | | | | | | | | | | | | | | | | | | | | 31 |
| 340-349 | 006 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 350-359 | 010 | 007 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 20 |
| | | 856 | | 968 | | 576 | | 511 | | 516 | | 343 | | 240 | | 57 | | 5 | | 0 | | 0 | | 0 | | 8292 |
| | 342 | | 1044 | | 805 | | 587 | | 524 | | 443 | | 337 | | 120 | | 18 | | 0 | | 0 | | 0 | | 0 | |

NUMBER OF ZERO RATES 633

JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

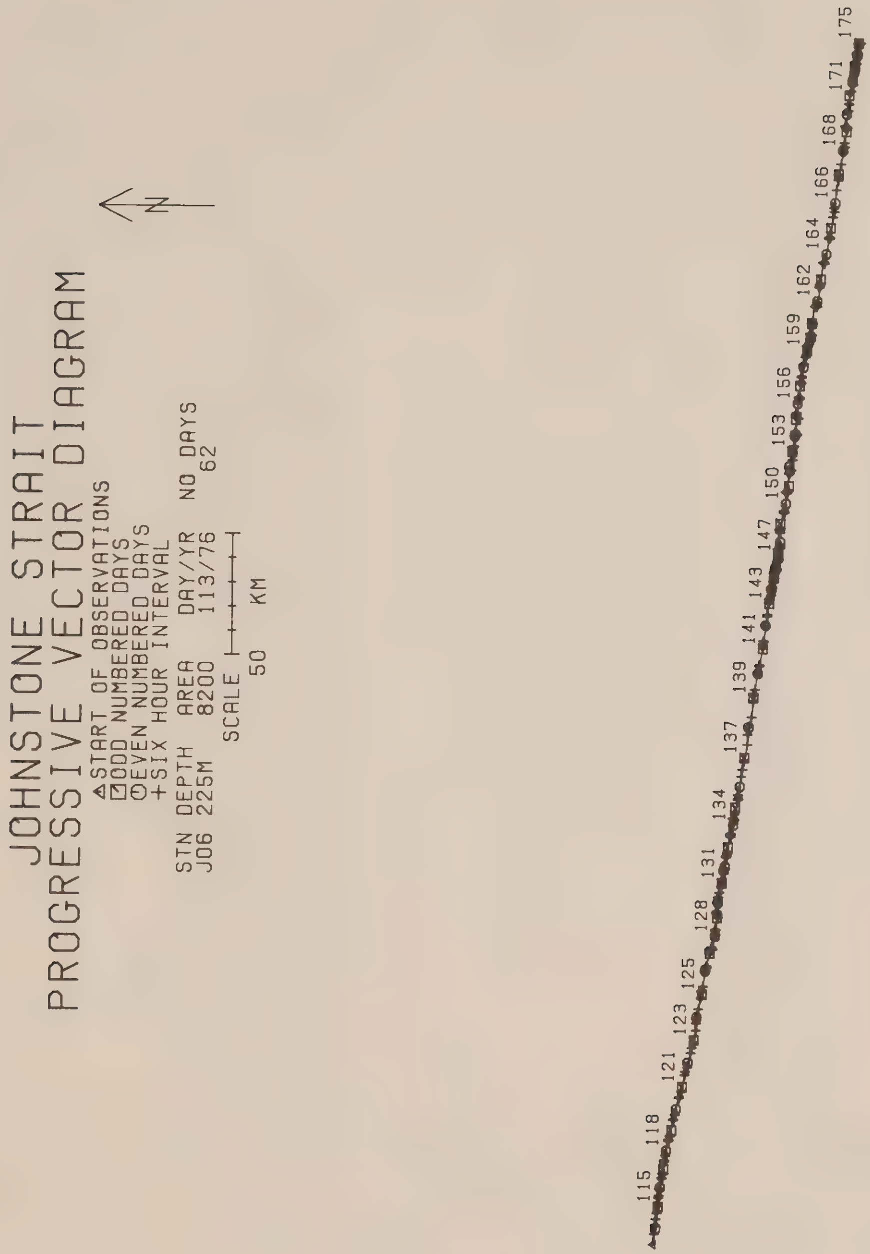
STN J06 DEPTH 225 JOHNSTONE STRAIT 50 29.6 N 126 17.7 W LENGTH OF RECORD= 62 DAYS

START OF RECORD 22 MN 12 HR 22 DY 4 MO 76 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 024 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | | 33 |
| 10- 19 | 013 | 006 | 002 | | | | | | | | | | | | | | | | | | | | | | | 21 |
| 20- 29 | 020 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | | 27 |
| 30- 39 | 018 | 010 | 002 | | | | | | | | | | | | | | | | | | | | | | | 30 |
| 40- 49 | 014 | 017 | 003 | | | | | | | | | | | | | | | | | | | | | | | 34 |
| 50- 59 | 014 | 016 | 003 | | | | | | | | | | | | | | | | | | | | | | | 33 |
| 60- 69 | 015 | 028 | 007 | | | | | | | | | | | | | | | | | | | | | | | 50 |
| 70- 79 | 013 | 044 | 022 | 004 | | | | | | | | | | | | | | | | | | | | | | 83 |
| 80- 89 | 024 | 045 | 065 | 046 | 041 | 017 | 007 | 003 | | | | | | | | | | | | | | | | | | 249 |
| 90- 99 | 021 | 055 | 095 | 149 | 200 | 204 | 150 | 109 | 080 | 067 | 041 | 022 | 008 | 002 | | | | | | | | | | | | 1203 |
| 100-109 | 030 | 055 | 133 | 202 | 188 | 192 | 167 | 106 | 097 | 068 | 040 | 024 | 008 | | | | | | | | | | | | | 1350 |
| 110-119 | 027 | 077 | 066 | 046 | 027 | 011 | 004 | 001 | | | | | | | | | | | | | | | | | | 259 |
| 120-129 | 025 | 059 | 022 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | 115 |
| 130-139 | 017 | 042 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | 68 |
| 140-149 | 023 | 012 | 001 | | | | | | | | | | | | | | | | | | | | | | | 36 |
| 150-159 | 020 | 014 | | | | | | | | | | | | | | | | | | | | | | | | 34 |
| 160-169 | 018 | 006 | | | | | | | | | | | | | | | | | | | | | | | | 24 |
| 170-179 | 024 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 29 |
| 180-189 | 022 | 007 | | | | | | | | | | | | | | | | | | | | | | | | 29 |
| 190-199 | 012 | 006 | | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 200-209 | 023 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 31 |
| 210-219 | 024 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | 29 |
| 220-229 | 019 | 019 | 002 | | | | | | | | | | | | | | | | | | | | | | | 40 |
| 230-239 | 023 | [illegible] | [illegible] | 001 | | | | | | | | | | | | | | | | | | | | | | 56 |
| 240-249 | 021 | 040 | 003 | | | | | | | | | | | | | | | | | | | | | | | 64 |
| 250-259 | 021 | 089 | 015 | | | | | | | | | | | | | | | | | | | | | | | 125 |
| 260-269 | 030 | 077 | 051 | 039 | 010 | 006 | 001 | | | | | | | | | | | | | | | | | | | 203 |
| 270-279 | 029 | 105 | 105 | 100 | 077 | 048 | 014 | 003 | | | | | | | | | | | | | | | | | | 485 |
| 280-289 | 045 | 123 | 134 | 078 | 098 | 021 | 005 | 002 | | | | | | | | | | | | | | | | | | 476 |
| 290-299 | 034 | [illegible] | 052 | 059 | 033 | 004 | 002 | | | | | | | | | | | | | | | | | | | 285 |
| 300-309 | 035 | 057 | 037 | 012 | 002 | | | | | | | | | | | | | | | | | | | | | 143 |
| 310-319 | 019 | [illegible] | 029 | [illegible] | 001 | | | | | | | | | | | | | | | | | | | | | 68 |
| 320-329 | 020 | [illegible] | [illegible] | 021 | 001 | | | | | | | | | | | | | | | | | | | | | 43 |
| 330-339 | 014 | [illegible] | [illegible] | | | | | | | | | | | | | | | | | | | | | | | 34 |
| 340-349 | 022 | [illegible] | 001 | | | | | | | | | | | | | | | | | | | | | | | 32 |
| 350-359 | 015 | [illegible] | [illegible] | | | | | | | | | | | | | | | | | | | | | | | 24 |
| | 788 | 1273 | 842 | 745 | 679 | 503 | 350 | 224 | 177 | 135 | 81 | 45 | 16 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5863 |

NUMBER OF ZERO RATES 86


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J06 225M 8200 113/76 62
SCALE
50 KM
N
115
118
121
123
125
128
131
134
137
139
141
143
147
150
153
156
159
162
164
166
168
171
175

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

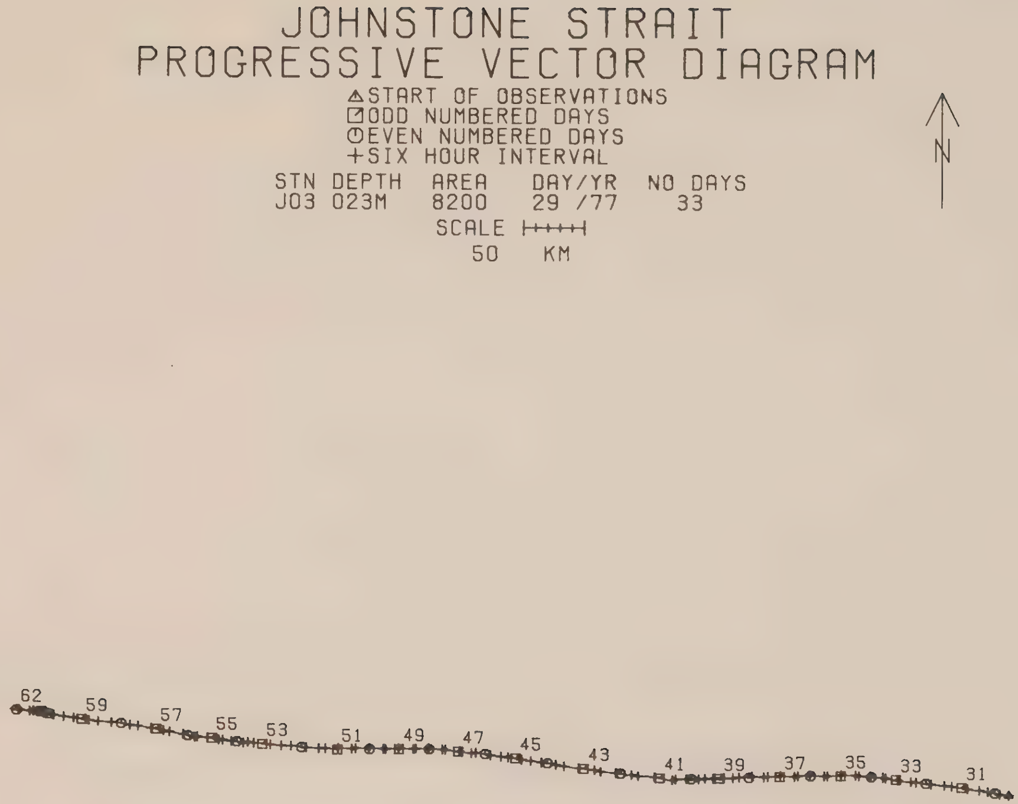
STN J03 DEPTH 023 JOHNSTONE STRAIT 50 28.3 N 126 8.2 W LENGTH OF RECORD= 82 DAYS

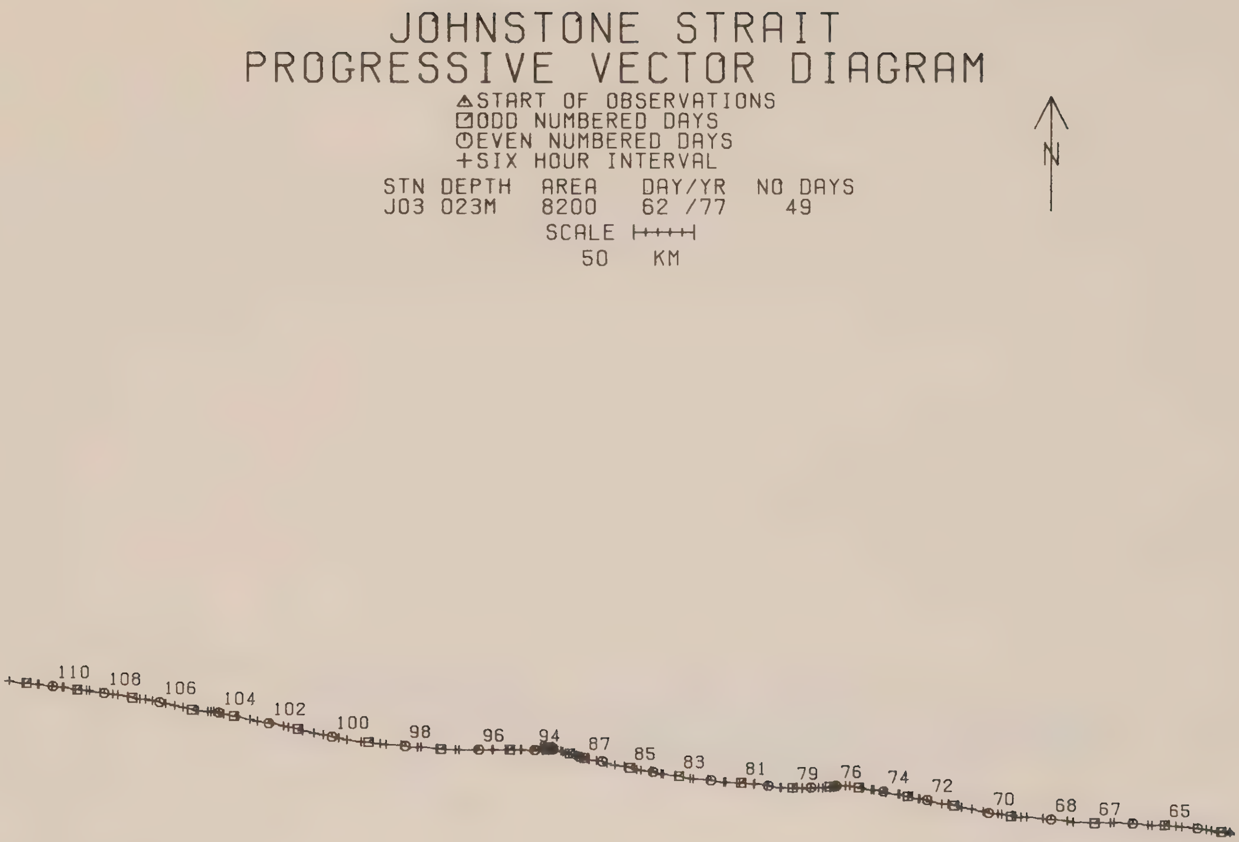
START OF RECORD 7 MN 16 HR 29 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 007 | 013 | 001 | | | | | | | | | | | | | | | | | | | | | | | 21 |
| 10- 19 | 005 | 011 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 19 |
| 20- 29 | 006 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 30- 39 | 005 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 40- 49 | 013 | 008 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 24 |
| 50- 59 | 007 | 011 | 010 | 001 | | | | | | | | | | | | | | | | | | | | | | 29 |
| 60- 69 | 008 | 018 | 004 | 004 | | | | | | | | | | | | | | | | | | | | | | 34 |
| 70- 79 | 009 | 021 | 012 | 006 | 003 | | | | | | | | | | | | | | | | | | | | | 51 |
| 80- 89 | 010 | 022 | 013 | 006 | 010 | 005 | 001 | 004 | | 001 | | | | | | | | | | | | | | | | 72 |
| 90- 99 | 011 | 028 | 017 | 019 | 024 | 014 | 020 | 016 | 017 | 006 | 001 | 002 | 002 | | | | | | | | | | | | | 177 |
| 100-109 | 010 | 028 | 031 | 022 | 034 | 031 | 019 | 016 | 009 | 007 | 001 | 001 | | | | | | | | | | | | | | 209 |
| 110-119 | 017 | 042 | 055 | 030 | 023 | 024 | 019 | 010 | | | | | | | | | | | | | | | | | | 220 |
| 120-129 | 016 | 052 | 068 | 041 | 017 | 015 | 004 | | | | | | | | | | | | | | | | | | | 213 |
| 130-139 | 020 | 052 | 030 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | 113 |
| 140-149 | 013 | 036 | 014 | 004 | | | | | | | | | | | | | | | | | | | | | | 67 |
| 150-159 | 002 | 017 | 007 | 003 | | | | | | | | | | | | | | | | | | | | | | 29 |
| 160-169 | | 007 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 11 |
| 170-179 | 006 | 008 | 004 | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 180-189 | 001 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 190-199 | 006 | 014 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | 28 |
| 200-209 | 005 | 017 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | 31 |
| 210-219 | 008 | 011 | 012 | 009 | 001 | | | | | | | | | | | | | | | | | | | | | 41 |
| 220-229 | 003 | 004 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | 14 |
| 230-239 | 001 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 240-249 | | 007 | 001 | 001 | | | | | | | 001 | | | | | | | | | | | | | | | 10 |
| 250-259 | 009 | 044 | 020 | 016 | 004 | 001 | 001 | 001 | 017 | 020 | 013 | 005 | 004 | 001 | 001 | 001 | | | | | | | | | | 158 |
| 260-269 | 013 | 078 | 102 | 088 | 077 | 095 | 056 | 060 | 090 | 121 | 112 | 068 | 054 | 049 | 035 | 013 | 001 | | | | | | | | | 1112 |
| 270-279 | 010 | 066 | 131 | 136 | 173 | 178 | 204 | 205 | 250 | 287 | 281 | 203 | 141 | 116 | 072 | 020 | 006 | | | | | | | | | 2479 |
| 280-289 | 008 | 054 | 101 | 112 | 157 | 169 | 171 | 153 | 120 | 141 | 110 | 110 | 068 | 056 | 029 | 017 | 004 | 004 | | | | | | | | 1586 |
| 290-299 | 021 | 066 | 079 | 069 | 083 | 082 | 050 | 028 | 030 | 014 | 008 | 013 | 005 | 007 | 032 | 001 | | | | | | | | | | 558 |
| 300-309 | 015 | 055 | 049 | 042 | 022 | 019 | 009 | 004 | 003 | | | | | | | | | | | | | | | | | 218 |
| 310-319 | 010 | 029 | 035 | 031 | 011 | 004 | 001 | | 001 | | | | | | | | | | | | | | | | | 122 |
| 320-329 | 007 | 021 | 019 | 005 | | 001 | 001 | | | | | | | | | | | | | | | | | | | 54 |
| 330-339 | 009 | 020 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | | 39 |
| 340-349 | 008 | 012 | 003 | | | | | | | | | | | | | | | | | | | | | | | 23 |
| 350-359 | 015 | 010 | | 001 | | | | | | | | | | | | | | | | | | | | | | 26 |
| | 314 | 910 | 858 | 664 | 641 | 638 | 556 | 497 | 537 | 597 | 527 | 402 | 274 | 231 | 139 | 52 | 11 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7852 |

NUMBER OF ZERO RATES 2


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
△START OF OBSERVATIONS
□ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J03 023M 8200 29 /77 33
SCALE
50 KM
N
62
59
57
55
53
51
49
47
45
43
41
39
37
35
33
31


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J03 023M 8200 62 /77 49
SCALE
50 KM
N
110
108
106
104
102
100
98
96
94
87
85
83
81
79
76
74
72
70
68
67
65

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

$TN J03 DEPTH 200 JOHNSTONE STRAIT 50 28.3 N 126 8.2 W LENGTH OF RECORD= 49 DAYS

START OF RECORD 52 MN 10 HR 3 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 004 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 10- 19 | 006 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 20- 29 | 006 | 008 | 003 | | 001 | | | | | | | | | | | | | | | | | | | | | 18 |
| 30- 39 | 004 | 008 | 005 | 001 | | 001 | | | | | | | | | | | | | | | | | | | | 19 |
| 40- 49 | 004 | 010 | 005 | 003 | | | | | | | | | | | | | | | | | | | | | | 22 |
| 50- 59 | 007 | 008 | 007 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | 28 |
| 60- 69 | 005 | 013 | 012 | 010 | 008 | 003 | | | | | | | | | | | | | | | | | | | | 51 |
| 70- 79 | 002 | 019 | 016 | 021 | 029 | 009 | 001 | | 001 | | | | | | | | | | | | | | | | | 98 |
| 80- 89 | 004 | 012 | 024 | 025 | 028 | 023 | 011 | 003 | | | | | | | | | | | | | | | | | | 130 |
| 90- 99 | 003 | 016 | 032 | 033 | 045 | 042 | 049 | 040 | 045 | 037 | 037 | 039 | 039 | 035 | 019 | 014 | 008 | 002 | 004 | | | | | | | 539 |
| 100-109 | 003 | 021 | 038 | 047 | 070 | 086 | 087 | 093 | 124 | 126 | 145 | 134 | 119 | 138 | 123 | 082 | 053 | 027 | 007 | | | | | | | 1523 |
| 110-119 | 006 | 012 | 027 | 043 | 039 | 023 | 028 | 028 | 021 | 021 | 019 | 022 | 020 | 020 | 006 | 004 | 001 | 001 | | | | | | | | 341 |
| 120-129 | 007 | 023 | 014 | 006 | 004 | 005 | | | | | | | | | | | | | | | | | | | | 59 |
| 130-139 | 002 | 019 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | 26 |
| 140-149 | 005 | 015 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 24 |
| 150-159 | 003 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 160-169 | 002 | 010 | | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 170-179 | 007 | 006 | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 180-189 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 190-199 | 007 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 200-209 | 005 | 008 | | 001 | | | | | | | | | | | | | | | | | | | | | | 14 |
| 210-219 | 009 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 220-229 | 006 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 230-239 | 002 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 240-249 | 004 | 012 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | 19 |
| 250-259 | 006 | 014 | 007 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | 33 |
| 260-269 | 003 | 016 | 013 | 018 | 012 | 017 | 013 | 001 | 001 | | | | | | | | | | | | | | | | | 94 |
| 270-279 | 004 | 024 | 028 | 037 | 044 | 059 | 054 | 031 | 028 | 008 | 002 | | | | | | | | | | | | | | | 319 |
| 280-289 | 004 | 024 | 031 | 055 | 089 | 086 | 080 | 081 | 097 | 048 | 012 | 001 | | | | | | | | | | | | | | 608 |
| 290-299 | 004 | 022 | 040 | 055 | 049 | 055 | 053 | 045 | 031 | 010 | 002 | | | | | | | | | | | | | | | 366 |
| 300-309 | 004 | 019 | 027 | 029 | 021 | 012 | 008 | 002 | 001 | | | | | | | | | | | | | | | | | 123 |
| 310-319 | 003 | 014 | 011 | 010 | 002 | 004 | | | | | | | | | | | | | | | | | | | | 44 |
| 320-329 | 001 | 016 | 014 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | 36 |
| 330-339 | 004 | 011 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 19 |
| 340-349 | 004 | 011 | 002 | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 350-359 | 010 | 015 | 002 | | | | | | | | | | | | | | | | | | | | | | | 27 |
| | | 453 | | 412 | | 426 | | 324 | | 250 | | 196 | | 193 | | 100 | | 30 | | 0 | | 0 | | 0 | | 4721 |
| | 168 | | 376 | | 444 | | 384 | | 349 | | 217 | | 178 | | 148 | | 62 | | 11 | | 0 | | 0 | | 0 | |

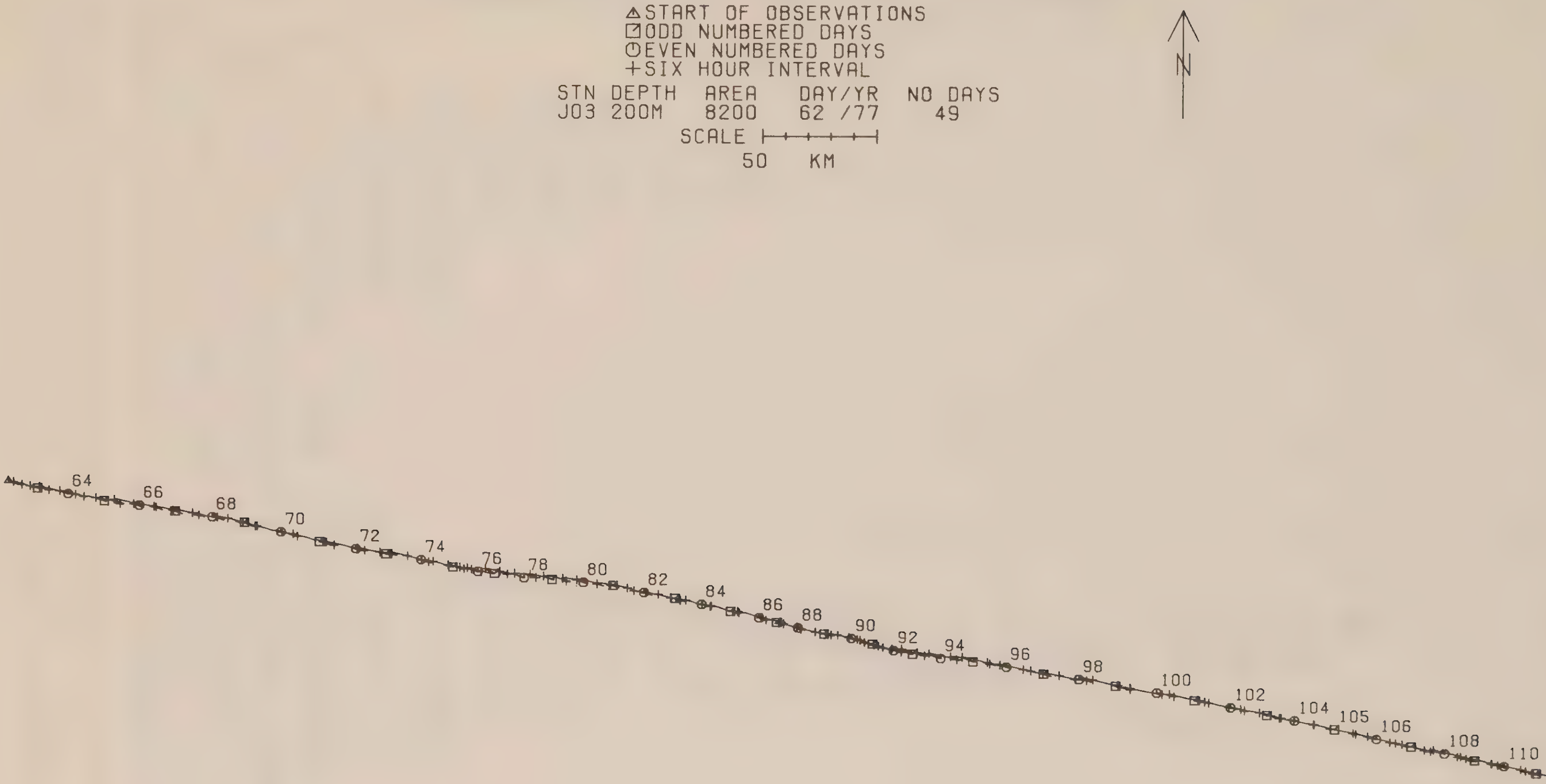
NUMBER OF ZERO RATES 0

# JOHNSTONE STRAIT
# PROGRESSIVE VECTOR DIAGRAM

△ START OF OBSERVATIONS
☐ ODD NUMBERED DAYS
○ EVEN NUMBERED DAYS
+ SIX HOUR INTERVAL

| STN | DEPTH | AREA | DAY/YR | NO DAYS |
|---|---|---|---|---|
| J03 | 200M | 8200 | 62 /77 | 49 |

SCALE 50 KM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

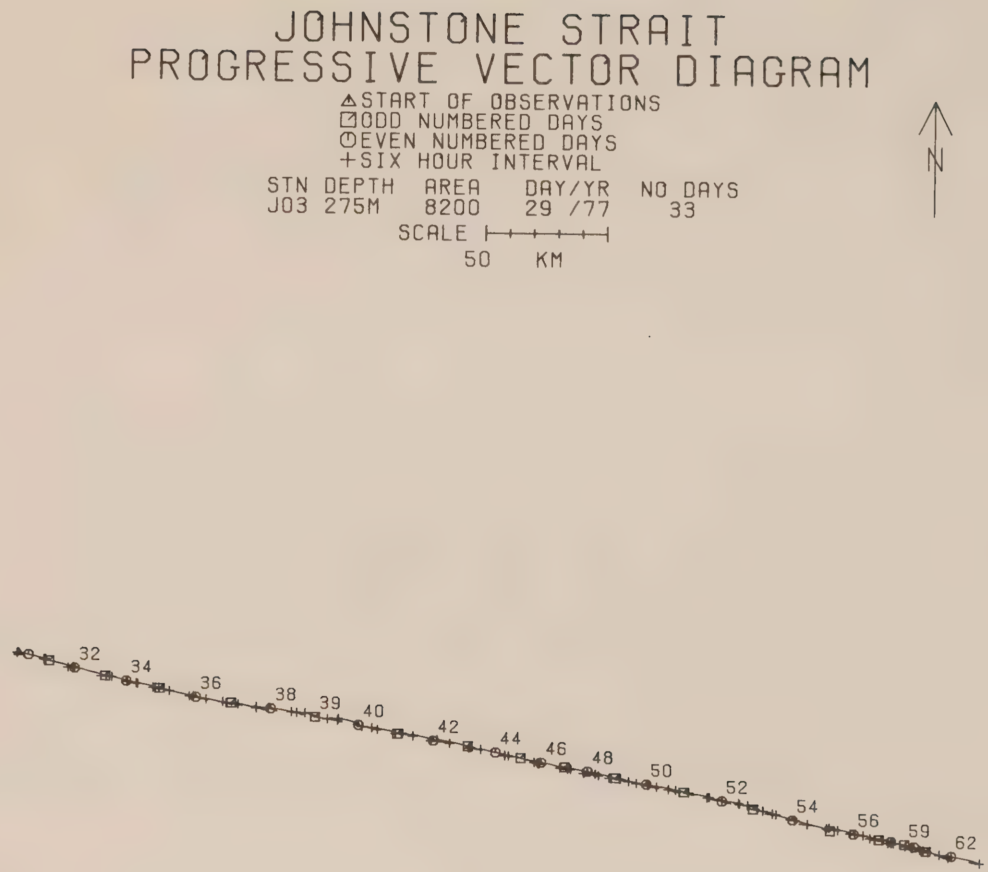
STN J03 DEPTH 275 JOHNSTONE STRAIT 50 28.3 N 126 8.2 W LENGTH OF RECORD= 82 DAYS

START OF RECORD 37 MN 15 HR 29 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 008 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 10- 19 | 014 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 22 |
| 20- 29 | 010 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 30- 39 | 018 | 006 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 27 |
| 40- 49 | 013 | 013 | 001 | | | | | | | | | | | | | | | | | | | | | | | 27 |
| 50- 59 | 005 | 010 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | 21 |
| 60- 69 | 010 | 014 | 014 | 005 | 003 | 001 | | | | | | | | | | | | | | | | | | | | 47 |
| 70- 79 | 007 | 016 | 017 | 017 | 012 | 007 | 007 | 001 | | | | | | | | | | | | | | | | | | 84 |
| 80- 89 | 002 | 026 | 029 | 036 | 044 | 029 | 011 | 015 | 009 | 008 | 011 | 006 | 007 | 004 | 003 | | | | | | | | | | | 240 |
| 90- 99 | 003 | 028 | 045 | 056 | 072 | 076 | 098 | 082 | 088 | 087 | 112 | 138 | 111 | 125 | 108 | 102 | 058 | 031 | 021 | 007 | 002 | | | | | 1450 |
| 100-109 | 005 | 031 | 073 | 095 | 084 | 104 | 125 | 123 | 116 | 161 | 191 | 184 | 154 | 157 | 126 | 099 | 094 | 047 | 007 | 003 | 002 | 002 | | | | 1983 |
| 110-119 | 010 | 044 | 052 | 062 | 057 | 056 | 067 | 049 | 044 | 044 | 015 | 013 | 002 | 002 | | | | | | | | | | | | 517 |
| 120-129 | 004 | 040 | 036 | 021 | 025 | 011 | 006 | 002 | | | | | | | | | | | | | | | | | | 145 |
| 130-139 | 009 | 026 | 010 | 004 | 004 | | | | | | | | | | | | | | | | | | | | | 53 |
| 140-149 | 011 | 020 | 009 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | 45 |
| 150-159 | 015 | 014 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | | 38 |
| 160-169 | 011 | 016 | 006 | | | | | | | | | | | | | | | | | | | | | | | 33 |
| 170-179 | 017 | 008 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | 31 |
| 180-189 | 010 | 011 | 005 | 003 | | | | | | | | | | | | | | | | | | | | | | 29 |
| 190-199 | 014 | 011 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | 32 |
| 200-209 | 012 | 009 | 003 | | 001 | | | | | | | | | | | | | | | | | | | | | 25 |
| 210-219 | 012 | 009 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | 27 |
| 220-229 | 010 | 013 | 015 | 004 | | | | | | | | | | | | | | | | | | | | | | 42 |
| 230-239 | 028 | 024 | 011 | 006 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 71 |
| 240-249 | 012 | 018 | 013 | 006 | 005 | 001 | | | | | | | | | | | | | | | | | | | | 55 |
| 250-259 | 010 | 025 | 032 | 012 | 006 | 001 | | | | | | | | | | | | | | | | | | | | 86 |
| 260-269 | 011 | 037 | 035 | 034 | 028 | 009 | 003 | 001 | | 002 | | | | | | | | | | | | | | | | 160 |
| 270-279 | 011 | 038 | 070 | 049 | 090 | 082 | 112 | 099 | 069 | 039 | 009 | 001 | | | | | | | | | | | | | | 669 |
| 280-289 | 007 | 042 | 077 | 091 | 092 | 115 | 170 | 171 | 162 | 148 | 074 | 013 | 001 | | | | | | | | | | | | | 1163 |
| 290-299 | | 027 | 043 | 060 | 061 | 060 | 056 | 045 | 022 | 010 | 006 | | | | | | | | | | | | | | | 390 |
| 300-309 | 006 | 038 | 022 | 021 | 023 | 015 | 019 | 006 | 003 | | | | | | | | | | | | | | | | | 153 |
| 310-319 | 009 | 013 | 012 | 013 | 005 | 006 | | 001 | | | | | | | | | | | | | | | | | | 59 |
| 320-329 | 008 | 013 | 010 | | | | | | | | | | | | | | | | | | | | | | | 31 |
| 330-339 | 010 | 013 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | 26 |
| 340-349 | 006 | 011 | | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 350-359 | 006 | 016 | 002 | | | | | | | | | | | | | | | | | | | | | | | 24 |
| | 354 | 696 | 671 | 610 | 614 | 574 | 674 | 595 | 513 | 499 | 418 | 355 | 275 | 288 | 237 | 201 | 152 | 78 | 28 | 10 | 4 | 2 | 0 | 0 | 0 | 7848 |

NUMBER OF ZERO RATES 10


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J03 275M 8200 29 /77 33
SCALE
50 KM
N
32
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62


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J03 275M 8200 62 /77 49
SCALE
50 KM
N
64
66
68
70
72
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109
111

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

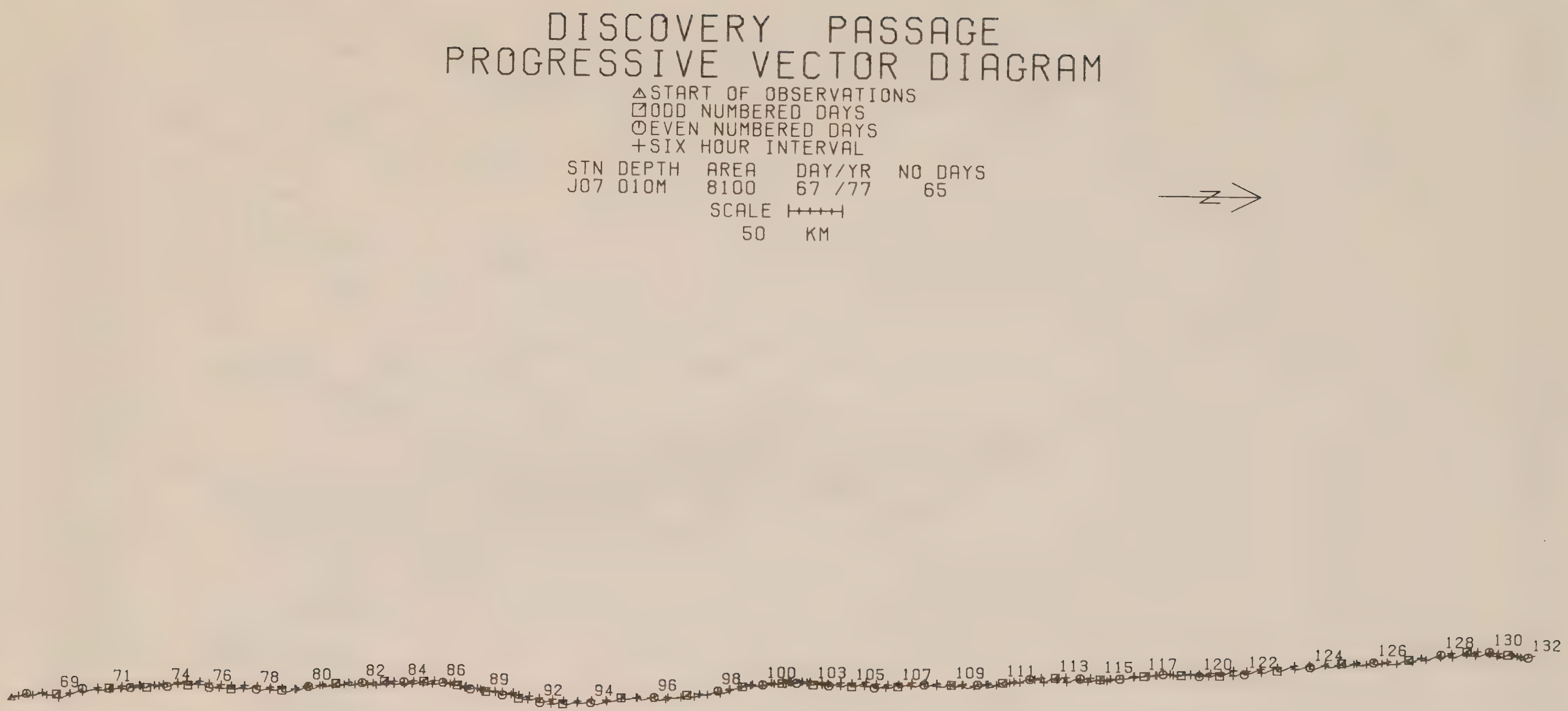
STN 037 DEPTH 010 DISCOVERY PASSAGE 50 18.7 N 125 25.7 W LENGTH OF RECORD= 65 DAYS

START OF RECORD 7 MN 15 HR 8 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 001 | 008 | 015 | 016 | 019 | 015 | 040 | 044 | 043 | 044 | 052 | 044 | 039 | 031 | 017 | 017 | 007 | 005 | | | | | | | | 457 |
| 10- 19 | | 007 | 018 | 021 | 024 | 033 | 026 | 028 | 037 | 017 | 021 | 018 | 012 | 006 | 007 | 001 | | | | | | | | | | 276 |
| 20- 29 | 001 | 014 | 023 | 019 | 029 | 024 | 031 | 027 | 019 | 007 | 010 | 008 | 004 | 002 | 001 | 002 | | | | | | | | | | 221 |
| 30- 39 | | 013 | 018 | 011 | 017 | 028 | 022 | 020 | 011 | 008 | 005 | 004 | 003 | 001 | | | | | | | | | | | | 161 |
| 40- 49 | 001 | 014 | 020 | 016 | 011 | 014 | 008 | 013 | 010 | 007 | 001 | 005 | 001 | | | | | | | | | | | | | 121 |
| 50- 59 | 001 | 018 | 011 | 009 | 013 | 020 | 011 | 011 | 013 | 002 | 007 | 002 | 001 | | 001 | | | | | | | | | | | 120 |
| 60- 69 | 004 | 017 | 022 | 016 | 012 | 027 | 017 | 017 | 011 | 007 | 008 | 003 | 002 | 001 | | | | | | | | | | | | 164 |
| 70- 79 | 001 | 015 | 020 | 017 | 020 | 015 | 012 | 018 | 012 | 005 | 003 | 001 | 002 | | | | | | | | | | | | | 141 |
| 80- 89 | 002 | 017 | 020 | 010 | 008 | 014 | 007 | 006 | 005 | 003 | 001 | | | | | | | | | | | | | | | 93 |
| 90- 99 | 002 | 009 | 024 | 009 | 015 | 003 | 005 | 003 | | 001 | 001 | | | | | | | | | | | | | | | 72 |
| 100-109 | 002 | 015 | 027 | 018 | 019 | 009 | 002 | 002 | | 001 | 001 | | | | | | | | | | | | | | | 96 |
| 110-119 | 001 | 017 | 035 | 038 | 028 | 016 | 011 | 005 | | 001 | | | | | | | | | | | | | | | | 152 |
| 120-129 | 004 | 013 | 029 | 047 | 053 | 038 | 022 | 006 | 001 | | | | | | | | | | | | | | | | | 213 |
| 130-139 | 001 | 009 | 032 | 051 | 053 | 038 | 031 | 010 | 004 | 002 | 002 | | | | | | | | | | | | | | | 233 |
| 140-149 | | 007 | 028 | 039 | 040 | 032 | 035 | 017 | 012 | 005 | | | | | | | | | | | | | | | | 215 |
| 150-159 | | 016 | 012 | 018 | 026 | 041 | 042 | 033 | 016 | 011 | 004 | 002 | | | | | | | | | | | | | | 221 |
| 160-169 | | 007 | 012 | 016 | 019 | 022 | 027 | 029 | 020 | 021 | 006 | 001 | | | | | | | | | | | | | | 180 |
| 170-179 | | 004 | 005 | 007 | 017 | 012 | 028 | 022 | 016 | 029 | 013 | 005 | | 001 | | | | | | | | | | | | 139 |
| 180-189 | | 002 | 006 | 006 | 010 | 017 | 020 | 016 | 017 | 013 | 006 | 003 | 001 | | | | | | | | | | | | | 117 |
| 190-199 | 001 | 003 | | 003 | 006 | 005 | 013 | 012 | 015 | 014 | 008 | 007 | | | | | | | | | | | | | | 85 |
| 200-209 | 003 | 003 | 002 | 005 | 003 | 002 | 010 | 005 | 002 | 002 | 003 | 001 | | 001 | | | | | | | | | | | | 42 |
| 210-219 | 002 | 003 | 002 | 001 | 001 | 001 | | | 002 | 002 | | | | | | | | | | | | | | | | 14 |
| 220-229 | | 003 | 004 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | 11 |
| 230-239 | 002 | 002 | 002 | | 002 | | | | | | | | | | | | | | | | | | | | | 8 |
| 240-249 | 001 | 003 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 8 |
| 250-259 | 002 | 001 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 7 |
| 260-269 | 002 | 003 | 002 | 005 | | | | | | | | | | | | | | | | | | | | | | 12 |
| 270-279 | 001 | 001 | 002 | 002 | 002 | 002 | | | | | | | | | | | | | | | | | | | | 10 |
| 280-289 | 001 | 001 | 001 | 005 | 003 | 003 | | | | | | | | | | | | | | | | | | | | 14 |
| 290-299 | 002 | 001 | | 004 | 004 | 003 | | | 001 | | | | | | | | | | | | | | | | | 15 |
| 300-309 | | 004 | 003 | | 014 | 008 | 003 | 001 | | | | | | | | | | | | | | | | | | 33 |
| 310-319 | | 001 | 003 | 008 | 007 | 013 | 016 | 005 | 009 | 003 | 003 | | | | | | | | | | | | | | | 68 |
| 320-329 | | 003 | 010 | 007 | 011 | 019 | 024 | 026 | 022 | 019 | 012 | 013 | 011 | 006 | | 002 | 003 | 001 | 001 | 001 | | | 001 | | | 192 |
| 330-339 | | 006 | 004 | 008 | 010 | 022 | 019 | 034 | 033 | 031 | 039 | 043 | 066 | 049 | 063 | 067 | 072 | 063 | 049 | 044 | 030 | 014 | 007 | 002 | | 770 |
| 340-349 | | 006 | 008 | 011 | 015 | 025 | 031 | 019 | 036 | 037 | 046 | 091 | 091 | 098 | 091 | 090 | 075 | 064 | 055 | 025 | 012 | 002 | | | | 918 |
| 350-359 | 001 | 006 | 010 | 018 | 026 | 027 | 042 | 041 | 059 | 038 | 058 | 057 | 045 | 059 | 050 | 035 | 015 | 011 | 006 | 004 | | | | | | 608 |
| | 39 | 272 | 436 | 466 | 538 | 548 | 555 | 460 | 419 | 310 | 310 | 308 | 278 | 255 | 230 | 214 | 172 | 144 | 111 | 74 | 42 | 16 | 8 | 2 | 0 | 6207 |

NUMBER OF ZERO RATES 0


DISCOVERY PASSAGE
PROGRESSIVE VECTOR DIAGRAM
△START OF OBSERVATIONS
□ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J07 010M 8100 67 /77 65
SCALE
50 KM
N
69
71
74
76
78
80
82
84
86
89
92
94
96
98
100
103
105
107
109
111
113
115
117
120
122
124
126
128
130
132

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J07 DEPTH 072 DISCOVERY PASSAGE 50 18.5 N 125 25.2 W LENGTH OF RECORD= 3 DAYS

START OF RECORD 22 MN 16 HR 1 DY 2 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | | | 001 | 001 | 002 | 002 | | 003 | | | | | 001 | | | | | | | | | | | | | 10 |
| 10- 19 | | | | 004 | 002 | 001 | | | | | | | | | | 001 | | | | | | | | | | 8 |
| 20- 29 | | | 001 | 004 | | 001 | | | | | | | | | | | | | | | | | | | | 6 |
| 30- 39 | | | 003 | 002 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 8 |
| 40- 49 | | 001 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | 4 |
| 50- 59 | | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 60- 69 | | | 003 | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 70- 79 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 80- 89 | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 90- 99 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 100-109 | | 001 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | 6 |
| 110-119 | | 001 | | | | 001 | | | | | | | | | | | | | | | | | | | | 2 |
| 120-129 | | | 002 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 4 |
| 130-139 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 140-149 | | | | 001 | | 001 | | | | | | | | | | | | | | | | | | | | 2 |
| 150-159 | | | 001 | | | 002 | 001 | 001 | | 002 | | | | | | | | | | | | | | | | 7 |
| 160-169 | | 002 | | 002 | 003 | 002 | 004 | 003 | 005 | | 002 | | | 001 | 001 | | | | | | | | | | | 25 |
| 170-179 | | 001 | 001 | 001 | 001 | 002 | 002 | 003 | 006 | 005 | 003 | | 008 | 004 | | | | | | | | | | | | 37 |
| 180-189 | 001 | | | | | | 001 | 001 | 002 | 002 | 002 | 003 | 003 | 002 | 002 | 001 | | | | | | | | | | 20 |
| 190-199 | | | | | | 001 | | | | 002 | 001 | 001 | | 001 | 001 | 001 | | | | | | | | | | 8 |
| 200-209 | | | | | 001 | | | 001 | | | | 002 | 001 | | | | | | | | | | | | | 5 |
| 210-219 | | | | 001 | | | | 001 | | | | 001 | | | | | | | | | | | | | | 3 |
| 220-229 | | 001 | 001 | | 001 | | 001 | | | | 001 | | 001 | | | | | | | | | | | | | 6 |
| 230-239 | | | | | | | | 001 | | | | 001 | | | | | | | | | | | | | | 2 |
| 240-249 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 250-259 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 260-269 | | | | | | | 001 | | | | | | | | | | | | | | | | | | | 1 |
| 270-279 | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 280-289 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 290-299 | | | 001 | | | | | | 001 | | | | | | | | | | | | | | | | | 2 |
| 300-309 | | | 001 | | | | 001 | | | 001 | | 001 | | | | | | | | | | | | | | 4 |
| 310-319 | | 001 | | | 001 | 001 | | | 001 | 001 | | | | | | | | | | | | | | | | 5 |
| 320-329 | 001 | | | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 330-339 | | | | | 001 | | 001 | 003 | 002 | | | | | 002 | 003 | 003 | 002 | | | | | | | | | 17 |
| 340-349 | | | 001 | | | 001 | 001 | 001 | 001 | 005 | 003 | 007 | 009 | 012 | 009 | 003 | 006 | 002 | | | | | | | | 61 |
| 350-359 | | | | 002 | | 002 | | 001 | | 003 | 007 | 006 | 001 | 005 | 001 | | | | | | | | | | | 28 |
| | 2 | 11 | 24 | 28 | 15 | 18 | 13 | 19 | 18 | 21 | 19 | 22 | 24 | 27 | 17 | 9 | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 297 |

NUMBER OF ZERO RATES 0

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

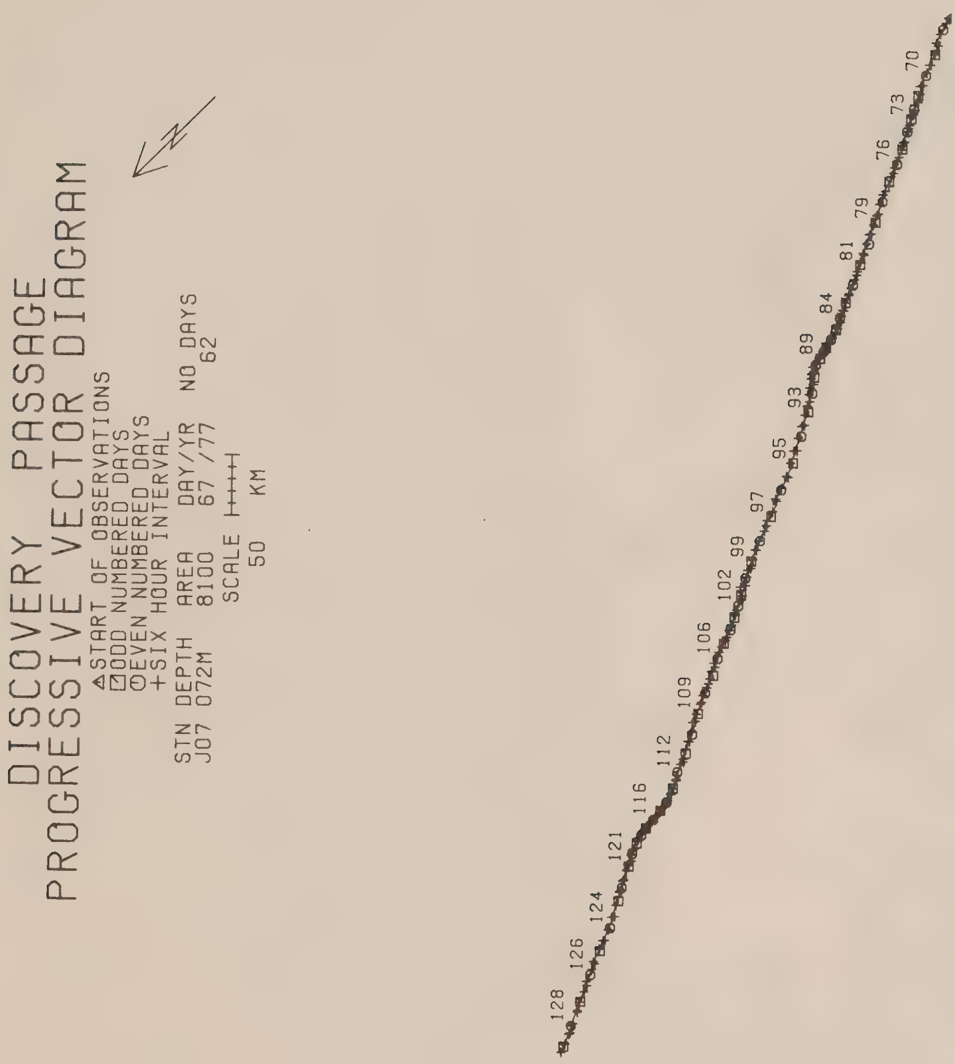
STN J07 DEPTH 072 DISCOVERY PASSAGE 50 19.7 N 125 25.7 W LENGTH OF RECORD= 62 DAYS

START OF RECORD 7 MN 15 HR 8 DY 3 MO 77 YR RATE OF OBSERV.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 003 | 013 | 026 | 033 | 032 | 028 | 021 | 017 | 017 | 011 | 006 | 003 | 007 | 003 | | | | | | | | | | | | 220 |
| 10- 19 | 003 | 013 | 010 | 020 | 023 | 013 | 009 | 005 | 005 | 005 | 005 | 003 | | | | | | | | | | | | | | 114 |
| 20- 29 | 003 | 018 | 008 | 013 | 011 | 006 | 001 | 002 | 001 | | | 001 | 001 | | | | | | | | | | | | | 65 |
| 30- 39 | 001 | 012 | 016 | 010 | 005 | 001 | 004 | | 001 | | | | | | | | | | | | | | | | | 50 |
| 40- 49 | 005 | 009 | 010 | 007 | 005 | 003 | 003 | 001 | | 001 | | | | | | | | | | | | | | | | 44 |
| 50- 59 | 001 | 012 | 011 | 009 | 003 | 002 | | | | | | | | | | | | | | | | | | | | 38 |
| 60- 69 | 004 | 016 | 009 | 007 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 39 |
| 70- 79 | 004 | 016 | 010 | 006 | | 001 | | | | | | | | | | | | | | | | | | | | 37 |
| 80- 89 | 005 | 011 | 011 | 005 | 004 | 001 | | | | | | | | | | | | | | | | | | | | 37 |
| 90- 99 | 002 | 017 | 007 | 004 | 003 | | | | | | | | | | | | | | | | | | | | | 33 |
| 100-109 | 003 | 010 | 009 | 004 | 002 | | 001 | | | | | | | | | | | | | | | | | | | 29 |
| 110-119 | | 016 | 013 | 008 | 003 | | | 001 | | | | | | | | | | | | | | | | | | 41 |
| 120-129 | 003 | 013 | 012 | 005 | 004 | | | | | | | | | | | | | | | | | | | | | 37 |
| 130-139 | 006 | 020 | 014 | 011 | 003 | 003 | 001 | | | | | | | | | | | | | | | | | | | 58 |
| 140-149 | 001 | 016 | 022 | 016 | 013 | 006 | 003 | 001 | | 001 | 001 | | | | | | | | | | | | | | | 80 |
| 150-159 | 003 | 018 | 038 | 023 | 027 | 022 | 016 | 013 | 007 | 005 | 002 | | | | | | | | | | | | | | | 174 |
| 160-169 | 002 | 022 | 037 | 047 | 049 | 066 | 068 | 066 | 045 | 025 | 008 | 007 | | | | | | | | | | | | | | 442 |
| 170-179 | 002 | 012 | 022 | 046 | 057 | 056 | 087 | 084 | 089 | 061 | 038 | 008 | 002 | | | | | | | | | | | | | 564 |
| 180-189 | 002 | 013 | 030 | 027 | 032 | 042 | 058 | 058 | 042 | 037 | 022 | 008 | 002 | | 001 | | | | | | | | | | | 374 |
| 190-199 | 001 | 010 | 017 | 016 | 017 | 021 | 018 | 013 | 010 | 008 | 005 | 002 | 001 | | | | | | | | | | | | | 139 |
| 200-209 | 001 | 009 | 013 | 010 | 006 | 002 | 003 | 003 | 003 | 001 | | | | | | | | | | | | | | | | 51 |
| 210-219 | 003 | 007 | 010 | 005 | 006 | 005 | 002 | | | | | | | | | | | | | | | | | | | 38 |
| 220-229 | 002 | 010 | 010 | 004 | 003 | 004 | 001 | | | | | | | | | | | | | | | | | | | 34 |
| 230-239 | 003 | 013 | 009 | 002 | 006 | | | | 001 | | | | | | | | | | | | | | | | | 34 |
| 240-249 | 003 | 005 | 012 | 006 | 001 | 001 | | 001 | 001 | | | | | | | | | | | | | | | | | 30 |
| 250-259 | 001 | 007 | 003 | 003 | | 003 | | 001 | 001 | | | | | | | | | | | | | | | | | 19 |
| 260-269 | 002 | 012 | 006 | 005 | 001 | 001 | 002 | | | | | | | | | | | | | | | | | | | 29 |
| 270-279 | 002 | 011 | 004 | 007 | 005 | | 001 | | | | | | | | | | | | | | | | | | | 30 |
| 280-289 | 001 | 002 | 010 | 008 | 009 | 004 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | 37 |
| 290-299 | 002 | 006 | 010 | 010 | 012 | 009 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | 52 |
| 300-309 | 001 | 013 | 017 | 019 | 016 | 012 | 007 | 001 | 002 | | | | | | | | | | | | | | | | | 88 |
| 310-319 | | 012 | 009 | 018 | 024 | 031 | 019 | 009 | 007 | 005 | 001 | 002 | | 002 | | | | | | | | | | | | 139 |
| 320-329 | 003 | 012 | 011 | 028 | 034 | 033 | 035 | 037 | 044 | 020 | 018 | 014 | 007 | 007 | 004 | 002 | | | | | | | | | | 309 |
| 330-339 | 002 | 012 | 016 | 023 | 038 | 043 | 045 | 051 | 045 | 082 | 086 | 074 | 091 | 096 | 087 | 103 | 053 | 018 | 014 | 005 | 001 | | | | | 985 |
| 340-349 | 003 | 009 | 025 | 037 | 039 | 045 | 054 | 041 | 055 | 070 | 082 | 094 | 092 | 077 | 083 | 093 | 082 | 042 | 012 | 001 | | | | | | 1036 |
| 350-359 | 003 | 011 | 026 | 026 | 038 | 039 | 037 | 044 | 052 | 042 | 034 | 017 | 013 | 017 | 012 | 009 | 009 | 001 | | | | | | | | 430 |
| | 86 | 438 | 523 | 528 | 533 | 504 | 498 | 451 | 430 | 374 | 308 | 233 | 216 | 202 | 187 | 207 | 144 | 61 | 26 | 6 | 1 | 0 | 0 | 0 | 0 | 5956 |

NUMBER OF ZERO RATES 17


DISCOVERY PASSAGE
PROGRESSIVE VECTOR DIAGRAM
ΔSTART OF OBSERVATIONS
☒ODD NUMBERED DAYS
⊘EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J07 072M 8100 67 /77 62
SCALE
50 KM
70
73
76
79
81
84
89
93
95
97
99
102
106
109
112
116
121
124
126
128

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

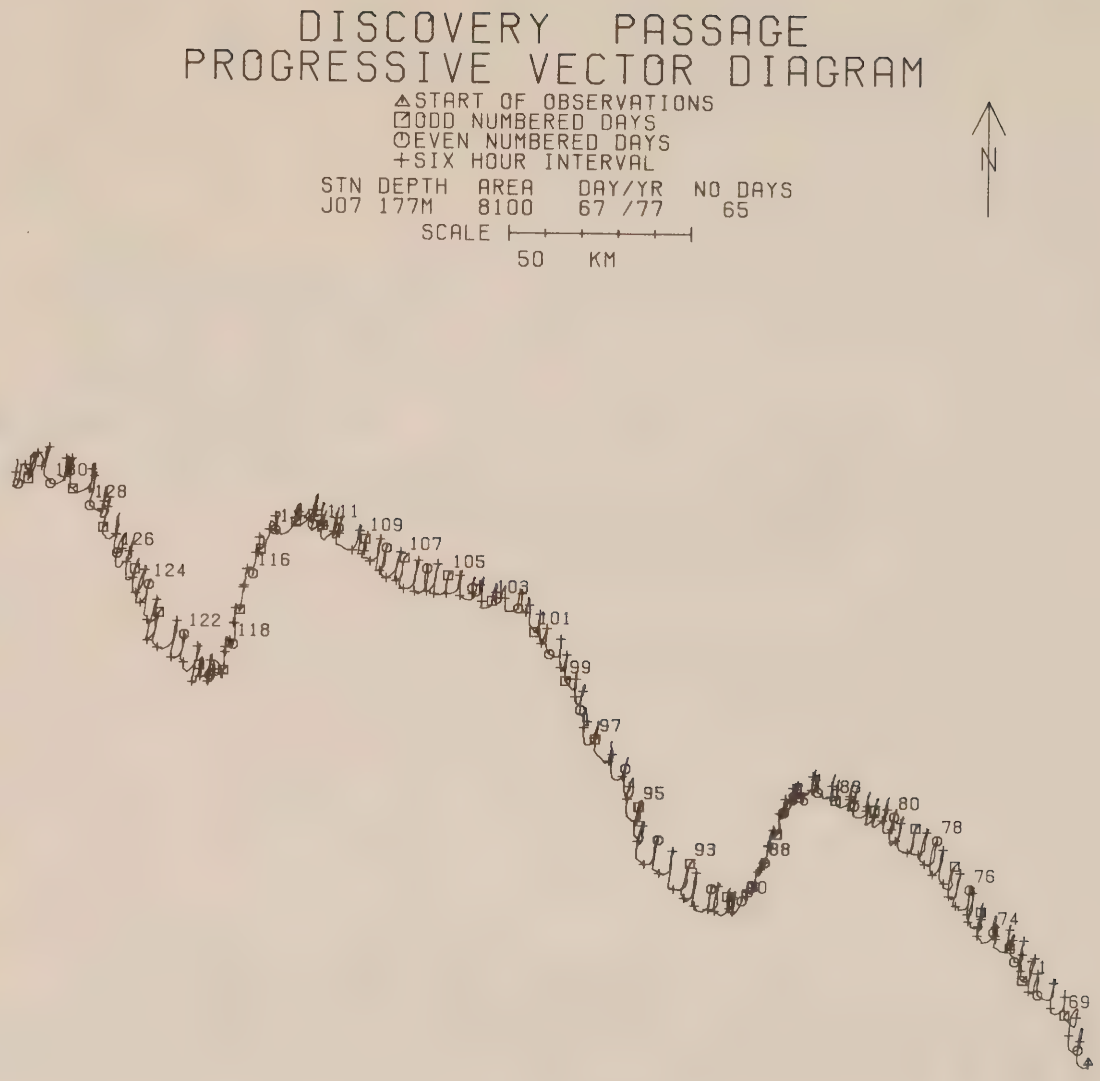
STN J07 DEPTH 177 DISCOVERY PAS TIME? 50 18.7 N 125 25.7 W LENGTH OF RECORD= 65 DAYS

START OF RECORD 37 MN 15 HR 8 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 001 | 004 | 017 | 027 | 027 | 041 | 055 | 038 | 053 | 083 | 074 | 074 | 075 | 059 | 044 | 029 | 014 | 005 | 005 | | | | | | | 725 |
| 10- 19 | 001 | 009 | 020 | 025 | 038 | 036 | 040 | 041 | 044 | 071 | 086 | 078 | 081 | 068 | 039 | 037 | 011 | 008 | 001 | | | | | | | 734 |
| 20- 29 | 001 | 008 | 019 | 023 | 029 | 021 | 029 | 017 | 023 | 023 | 022 | 013 | 018 | 012 | 003 | | 001 | 001 | | | | | | | | 263 |
| 30- 39 | 001 | 004 | 008 | 016 | 014 | 008 | 007 | 005 | 003 | 001 | 002 | 003 | 001 | 001 | | 001 | | | | | | | | | | 75 |
| 40- 49 | 001 | 009 | 012 | 012 | 006 | 004 | | 002 | 001 | | 001 | | 001 | | | | | | | | | | | | | 49 |
| 50- 59 | 002 | 006 | 014 | 007 | 001 | 002 | | 001 | | | | | | | | | | | | | | | | | | 33 |
| 60- 69 | | 009 | 014 | 005 | | | | | | | | | | | | | | | | | | | | | | 28 |
| 70- 79 | 002 | 003 | 004 | | | 001 | | | | | | | | | | | | | | | | | | | | 10 |
| 80- 89 | 002 | 007 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | 15 |
| 90- 99 | 003 | 005 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | 14 |
| 100-109 | 003 | 006 | 004 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 110-119 | 002 | 003 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | 9 |
| 120-129 | 001 | 004 | 005 | | | | | 001 | | | | | | | | | | | | | | | | | | 11 |
| 130-139 | 002 | 003 | 007 | 002 | | 001 | | 001 | | | | | | | | | | | | | | | | | | 16 |
| 140-149 | | 011 | 004 | 002 | | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | 20 |
| 150-159 | 001 | 003 | 009 | 003 | 003 | 002 | 003 | 003 | 001 | | | | | | | | | | | | | | | | | 28 |
| 160-169 | 001 | 003 | 009 | 013 | 014 | 008 | 010 | 012 | 009 | 005 | 001 | 002 | | | | | | | | | | | | | | 87 |
| 170-179 | | 012 | 013 | 026 | 027 | 039 | 031 | 037 | 029 | 020 | 018 | 011 | 008 | 005 | 003 | | | | | | | | | | | 279 |
| 180-189 | | 006 | 013 | 032 | 040 | 046 | 061 | 076 | 094 | 086 | 072 | 054 | 032 | 021 | 007 | 007 | 001 | | | | | | | | | 648 |
| 190-199 | 002 | 014 | 018 | 032 | 044 | 057 | 054 | 067 | 064 | 060 | 073 | 047 | 030 | 010 | 007 | 004 | | | | | | | | | | 583 |
| 200-209 | 001 | 007 | 014 | 030 | 037 | 048 | 069 | 061 | 072 | 033 | 015 | 007 | 004 | 001 | | | | | | | | | | | | 399 |
| 210-219 | 002 | 012 | 017 | 011 | 038 | 039 | 035 | 027 | 016 | 014 | 010 | 007 | 004 | 001 | 001 | | | | | | | | | | | 234 |
| 220-229 | | 006 | 018 | 016 | 023 | 027 | 019 | 013 | 017 | 010 | 010 | 009 | 004 | 002 | 004 | 002 | | | | | | | | | | 180 |
| 230-239 | 001 | 007 | 011 | 019 | 030 | 009 | 012 | 008 | 017 | 014 | 005 | 013 | 002 | 003 | 003 | 001 | | | | | | | | | | 155 |
| 240-249 | 004 | 009 | 010 | 012 | 013 | 011 | 009 | 016 | 007 | 014 | 006 | 011 | 004 | 002 | 003 | | | | | | | | | | | 131 |
| 250-259 | 002 | 009 | 009 | 012 | 008 | 013 | 012 | 009 | 009 | 011 | 006 | 001 | 003 | 002 | 001 | | | | | | | | | | | 107 |
| 260-269 | 003 | 007 | 016 | 015 | 006 | 007 | 004 | 009 | 008 | 008 | 001 | 004 | 001 | 001 | | | | | | | | | | | | 90 |
| 270-279 | 002 | 008 | 013 | 008 | 011 | 014 | 007 | 013 | 008 | 004 | 001 | 003 | | 001 | | | | | | | | | | | | 93 |
| 280-289 | | 011 | 015 | 010 | 020 | 013 | 005 | 015 | 004 | 008 | 004 | 001 | | | 001 | | | | | | | | | | | 107 |
| 290-299 | 001 | 005 | 026 | 015 | 019 | 013 | 018 | 011 | 008 | 004 | 004 | 002 | 001 | | | | | | | | | | | | | 127 |
| 300-309 | | 010 | 012 | 018 | 020 | 019 | 016 | 015 | 006 | 006 | 002 | 001 | | | | | | | | | | | | | | 125 |
| 310-319 | 001 | 015 | 011 | 019 | 017 | 007 | 018 | 017 | 002 | 007 | 003 | 002 | 002 | | | | | | | | | | | | | 121 |
| 320-329 | 003 | 008 | 021 | 028 | 019 | 015 | 006 | 014 | 007 | 002 | 003 | 002 | | | | | | | | | | | | | | 128 |
| 330-339 | 001 | 011 | 024 | 022 | 020 | 014 | 014 | 010 | 005 | 003 | 001 | | 001 | 001 | | | | | | | | | | | | 127 |
| 340-349 | 001 | 015 | 021 | 016 | 021 | 024 | 022 | 008 | 007 | 010 | | 003 | 004 | 003 | 002 | | | | | | | | | | | 157 |
| 350-359 | 001 | 003 | 024 | 029 | 021 | 031 | 020 | 040 | 027 | 028 | 020 | 016 | 014 | 008 | 001 | | | | | | | | | | | 283 |
| | | 272 | | 511 | | 571 | | 588 | | 525 | | 364 | | 201 | | 81 | | 14 | | 0 | | 0 | | 0 | | 6204 |
| | 49 | | 462 | | 566 | | 577 | | 541 | | 440 | | 290 | | 119 | | 27 | | 6 | | 0 | | 0 | | 0 | |

NUMBER OF ZERO RATES 0


DISCOVERY PASSAGE
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J07 177M 8100 67 /77 65
SCALE
50 KM
N
128
126
124
122
118
116
111
109
107
105
101
99
97
95
93
88
80
78
76
74
69

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J07 DEPTH 202 DISCOVERY PASSAGE 50 18.5 N 125 25.2 W LENGTH OF RECORD= 3 DAYS

START OF RECORD 37 MN 16 HR 1 DY 2 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | | | | | | 002 | | 002 | 002 | 008 | 006 | 007 | 001 | | 001 | | | | | | | | | | | 29 |
| 10- 19 | | | | 001 | 001 | 002 | 004 | 005 | 003 | 006 | 009 | 005 | 005 | | 001 | | | | | | | | | | | 42 |
| 20- 29 | | | | | 001 | 003 | | 003 | 001 | 002 | | | | | | | | | | | | | | | | 10 |
| 30- 39 | | | | | | | | | 001 | | | | | | | | | | | | | | | | | 1 |
| 40- 49 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 50- 59 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 60- 69 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 70- 79 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 80- 89 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 90- 99 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 100-109 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 110-119 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 120-129 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 130-139 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 140-149 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 150-159 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 160-169 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 170-179 | | | | | | | | | | | 001 | 002 | 002 | 003 | 005 | 001 | | | | | | | | | | 14 |
| 180-189 | | | | | | | | 002 | 003 | 002 | 006 | 005 | 010 | 007 | 010 | 003 | | | | | | | | | | 48 |
| 190-199 | | 001 | | | 001 | | 003 | 006 | 004 | 010 | 002 | 001 | 001 | 001 | 003 | 001 | 001 | 001 | 001 | | | | | | | 37 |
| 200-209 | | | 001 | | 001 | 002 | 002 | | 001 | 004 | | | | 001 | 002 | 002 | | | | | | | | | | 16 |
| 210-219 | | 001 | 001 | 001 | 001 | 003 | 002 | 002 | | | 001 | | 003 | | 002 | | | | | | | | | | | 17 |
| 220-229 | | | | | 002 | | 001 | 001 | | 001 | | 002 | 001 | | | 001 | | | | | | | | | | 9 |
| 230-239 | | | | 001 | 001 | 001 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | 7 |
| 240-249 | | | | | 003 | | 001 | 001 | | | | | | | | | | | | | | | | | | 5 |
| 250-259 | | | | 001 | 003 | 001 | 001 | 001 | 001 | | 001 | | | | | | | | | | | | | | | 9 |
| 260-269 | | | 001 | 001 | 002 | 001 | 001 | | 001 | | | | | | | | | | | | | | | | | 7 |
| 270-279 | | | | 005 | | | 002 | | | | | | | | | | | | | | | | | | | 7 |
| 280-289 | 001 | | | 003 | 001 | | | | | | | | | | | | | | | | | | | | | 5 |
| 290-299 | | | 001 | | | 001 | | | | | | | | | | | | | | | | | | | | 2 |
| 300-309 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 310-319 | | | 001 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 320-329 | | | 001 | 005 | 003 | 001 | | | | 001 | | | | | | | | | | | | | | | | 11 |
| 330-339 | | | | 003 | | | | | | | | | | | | | | | | | | | | | | 3 |
| 340-349 | | | | 002 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 350-359 | | | 002 | 001 | | 001 | | 006 | 002 | | | | | | | | | | | | | | | | | 12 |
| | 1 | 4 | 8 | 24 | 20 | 18 | 19 | 30 | 20 | 34 | 26 | 22 | 23 | 12 | 24 | 8 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 296 |

NUMBER OF ZERO RATES 0

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

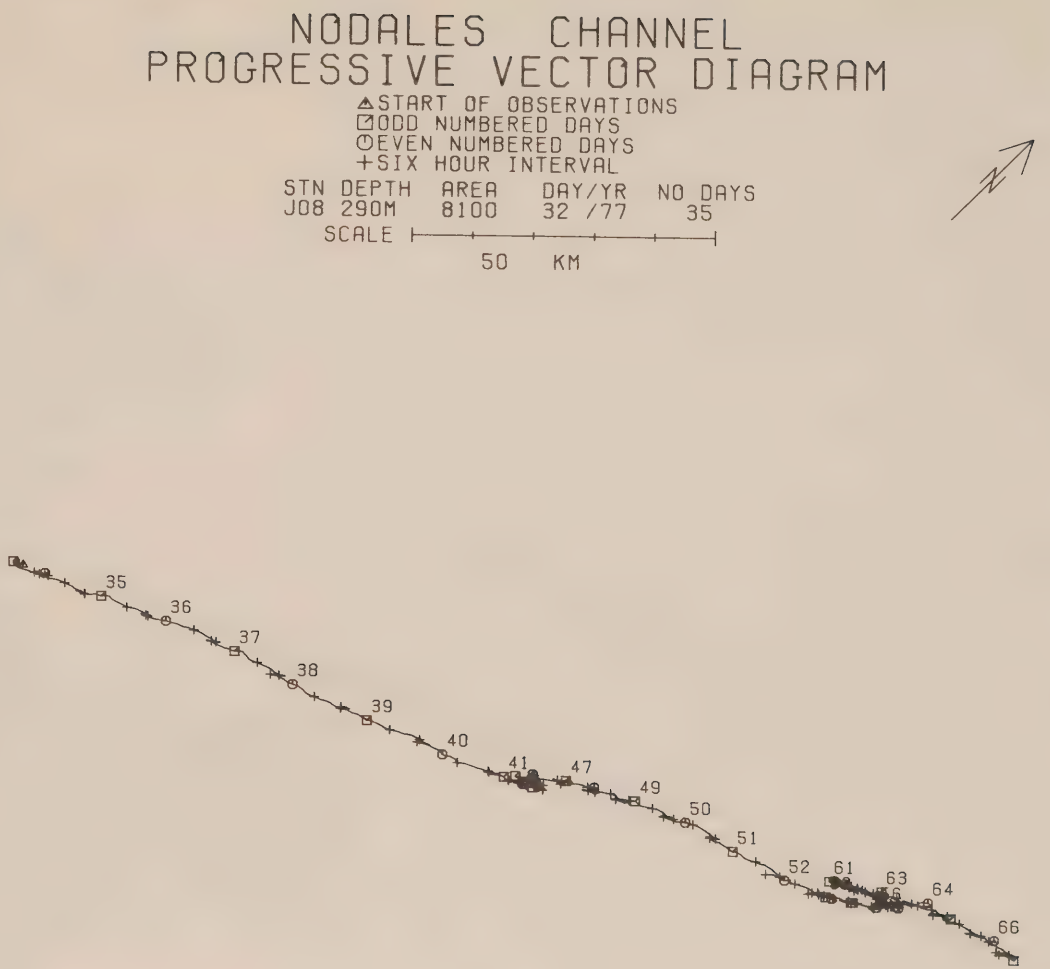
STN J08 DEPTH 290 NODALES CHANNEL 50 21.5 N 125 23.1 W LENGTH OF RECORD= 35 DAYS

START OF RECORD 7 MN 17 HR 1 DY 2 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 007 | 013 | 014 | 001 | | | | | | | | | | | | | | | | | | | | | | 35 |
| 10- 19 | 004 | 016 | 014 | 012 | 003 | | | | | | | | | | | | | | | | | | | | | 49 |
| 20- 29 | 010 | 027 | 029 | 016 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 84 |
| 30- 39 | 007 | 033 | 034 | 019 | 005 | 004 | 001 | | | | | | | | | | | | | | | | | | | 103 |
| 40- 49 | 008 | 037 | 048 | 031 | 035 | 025 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | 188 |
| 50- 59 | 007 | 042 | 061 | 059 | 112 | 097 | 027 | 003 | | | | | | | | | | | | | | | | | | 408 |
| 60- 69 | 005 | 042 | 072 | 058 | 133 | 075 | 027 | 001 | | | | | | | | | | | | | | | | | | 413 |
| 70- 79 | 010 | 042 | 075 | 086 | 105 | 058 | 011 | 001 | | | | | | | | | | | | | | | | | | 388 |
| 80- 89 | 007 | 029 | 052 | 061 | 046 | 018 | 001 | | | | | | | | | | | | | | | | | | | 214 |
| 90- 99 | 008 | 019 | 029 | 026 | 016 | 007 | | | | | | | | | | | | | | | | | | | | 104 |
| 100-109 | 003 | 012 | 008 | 016 | 006 | 002 | | | | | | | | | | | | | | | | | | | | 47 |
| 110-119 | 008 | 011 | 005 | 004 | | | | | | | | | | | | | | | | | | | | | | 28 |
| 120-129 | 004 | 011 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | | 24 |
| 130-139 | 007 | 011 | 001 | | | | | | | | | | | | | | | | | | | | | | | 19 |
| 140-149 | 007 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 150-159 | 003 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 160-169 | 005 | 010 | 003 | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 170-179 | 004 | 009 | 003 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 180-189 | 005 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 190-199 | 001 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 200-209 | 004 | 014 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | 25 |
| 210-219 | 008 | 011 | 013 | 007 | 006 | 001 | | | | | | | | | | | | | | | | | | | | 46 |
| 220-229 | 006 | 024 | 032 | 037 | 047 | 028 | 002 | | | | | | | | | | | | | | | | | | | 176 |
| 230-239 | 007 | 028 | 061 | 059 | 076 | 032 | 005 | | | | | | | | | | | | | | | | | | | 268 |
| 240-249 | 006 | 047 | 060 | 057 | 029 | 018 | | | | | | | | | | | | | | | | | | | | 217 |
| 250-259 | 007 | 027 | 035 | 022 | 016 | 003 | | | | | | | | | | | | | | | | | | | | 110 |
| 260-269 | 004 | 031 | 017 | 014 | 007 | 001 | | | | | | | | | | | | | | | | | | | | 74 |
| 270-279 | 004 | 025 | 012 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | 45 |
| 280-289 | 003 | 014 | 003 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 23 |
| 290-299 | 010 | 011 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | 28 |
| 300-309 | 007 | 014 | 003 | | | | | | | | | | | | | | | | | | | | | | | 24 |
| 310-319 | 004 | 017 | 002 | | | | | | | | | | | | | | | | | | | | | | | 23 |
| 320-329 | 007 | 007 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 18 |
| 330-339 | 003 | 015 | 006 | | | | | | | | | | | | | | | | | | | | | | | 24 |
| 340-349 | 005 | 008 | 005 | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 350-359 | 004 | 013 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | 22 |
| | 209 | 693 | 729 | 597 | 645 | 370 | 76 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3326 |

NUMBER OF ZERO RATES 11


NODALES CHANNEL
PROGRESSIVE VECTOR DIAGRAM
△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J08 290M 8100 32 /77 35
SCALE
50 KM
35
36
37
38
39
40
41
47
49
50
51
52
61
63
64
66

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J09 DEPTH 290 NODALES CHANNEL 50 21.5 N 125 23.1 W LENGTH OF RECORD= 62 DAYS

START OF RECORD 52 MN 12 HR 8 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 015 | 024 | 013 | 003 | | | | | | | | | | | | | | | | | | | | | | 55 |
| 10- 19 | 008 | 041 | 027 | 006 | | | | | | | | | | | | | | | | | | | | | | 82 |
| 20- 29 | 014 | 059 | 060 | 020 | 001 | | | | | | | | | | | | | | | | | | | | | 154 |
| 30- 39 | 010 | 062 | 064 | 022 | 016 | 003 | | 001 | 001 | | | | | | | | | | | | | | | | | 179 |
| 40- 49 | 022 | 082 | 087 | 072 | 043 | 031 | 005 | 005 | | | | | | | | | | | | | | | | | | 347 |
| 50- 59 | 014 | 092 | 137 | 115 | 209 | 194 | 054 | 015 | 003 | | | | | | | | | | | | | | | | | 833 |
| 60- 69 | 028 | 097 | 132 | 146 | 210 | 180 | 042 | 008 | 001 | | | | | | | | | | | | | | | | | 844 |
| 70- 79 | 029 | 096 | 132 | 141 | 170 | 075 | 015 | 008 | 003 | | | | | | | | | | | | | | | | | 669 |
| 80- 89 | 011 | 066 | 115 | 112 | 088 | 037 | 007 | 002 | 002 | | | | | | | | | | | | | | | | | 440 |
| 90- 99 | 019 | 055 | 068 | 065 | 033 | 010 | 004 | 001 | | | | | | | | | | | | | | | | | | 255 |
| 100-109 | 013 | 034 | 042 | 025 | 016 | 003 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | 137 |
| 110-119 | 012 | 030 | 016 | 016 | 003 | 002 | | | | | | | | | | | | | | | | | | | | 79 |
| 120-129 | 014 | 018 | 015 | 005 | | 001 | | | | | | | | | | | | | | | | | | | | 53 |
| 130-139 | 012 | 022 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | 40 |
| 140-149 | 014 | 020 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | 41 |
| 150-159 | 016 | 012 | 001 | | | | | | | | | | | | | | | | | | | | | | | 29 |
| 160-169 | 011 | 009 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | | 26 |
| 170-179 | 008 | 008 | 004 | 003 | | | | | | | | | | | | | | | | | | | | | | 23 |
| 180-189 | 004 | 011 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | 22 |
| 190-199 | 012 | 016 | 011 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | 43 |
| 200-209 | 014 | 017 | 009 | 003 | | | | | | | | | | | | | | | | | | | | | | 43 |
| 210-219 | 005 | 024 | 013 | 015 | 009 | 001 | | | | | | | | | | | | | | | | | | | | 67 |
| 220-229 | 005 | 029 | 045 | 048 | 037 | 021 | 004 | | | | | | | | | | | | | | | | | | | 189 |
| 230-239 | 011 | 042 | 073 | 089 | 074 | 034 | 008 | | | | | | | | | | | | | | | | | | | 331 |
| 240-249 | 005 | 049 | 074 | 077 | 063 | 020 | 003 | | | | | | | | | | | | | | | | | | | 291 |
| 250-259 | 009 | 051 | 053 | 037 | 031 | 009 | 002 | | | | | | | | | | | | | | | | | | | 192 |
| 260-269 | 016 | 037 | 029 | 018 | 004 | 001 | | | | | | | | | | | | | | | | | | | | 105 |
| 270-279 | 006 | 034 | 020 | 010 | 004 | | | | | | | | | | | | | | | | | | | | | 74 |
| 280-289 | 010 | 024 | 005 | 007 | | | | | | | | | | | | | | | | | | | | | | 46 |
| 290-299 | 012 | 020 | 005 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 40 |
| 300-309 | 005 | 018 | 008 | | | | | | | | | | | | | | | | | | | | | | | 31 |
| 310-319 | 009 | 017 | 009 | 001 | | | | | | | | | | | | | | | | | | | | | | 36 |
| 320-329 | 011 | 016 | 005 | | | | | | | | | | | | | | | | | | | | | | | 32 |
| 330-339 | 007 | 010 | 003 | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 340-349 | 010 | 016 | 007 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 36 |
| 350-359 | 006 | 022 | 006 | 004 | | | | | | | | | | | | | | | | | | | | | | 38 |
| | 428 | 1279 | 1307 | 1074 | 1014 | 622 | 146 | 41 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5922 |

NUMBER OF ZERO RATES 66

NODALES CHANNEL
PROGRESSIVE VECTOR DIAGRAM

△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
⊙EVEN NUMBERED DAYS
+SIX HOUR INTERVAL

| STN | DEPTH | AREA | DAY/YR | NO DAYS |
|---|---|---|---|---|
| J08 | 290M | 8100 | 67 /77 | 62 |

SCALE 50 KM

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J09 DEPTH 030 JOHNSTONE STRAIT 50 22.4 N 125 36.5 W LENGTH OF RECORD= 38 DAYS

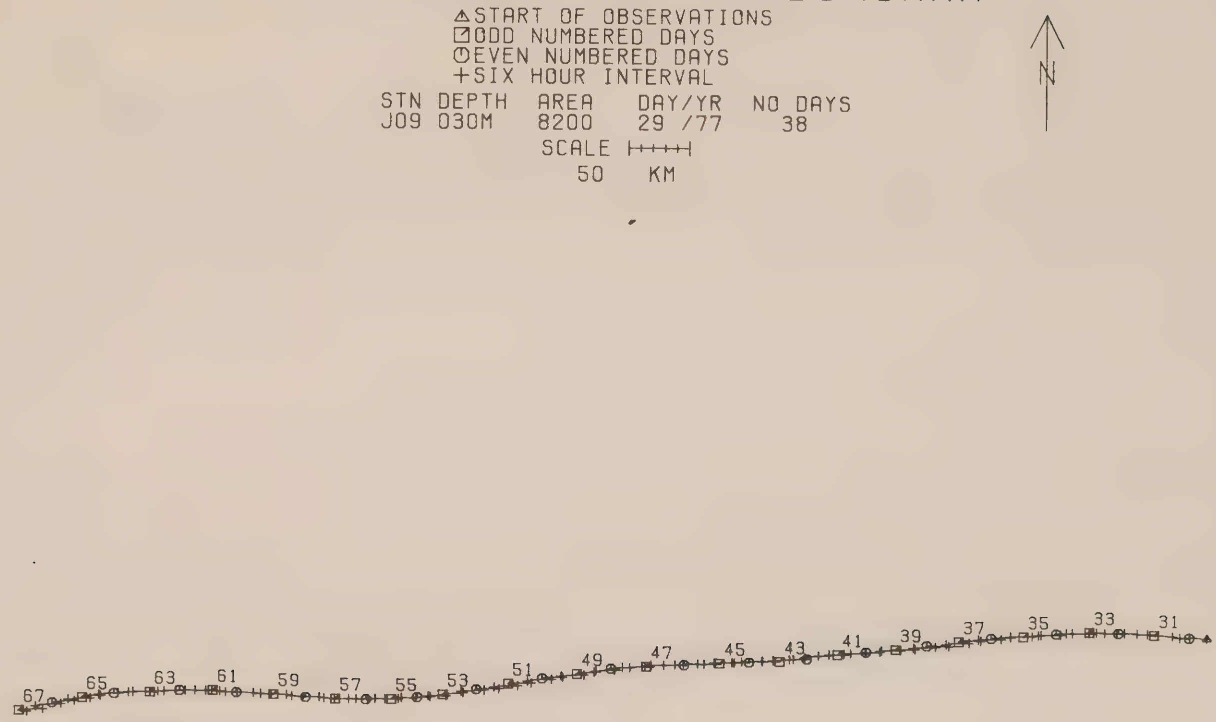
START OF RECORD 7 MN 12 HR 29 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 009 | 010 TO 019 | 020 TO 029 | 030 TO 039 | 040 TO 049 | 050 TO 059 | 060 TO 069 | 070 TO 079 | 080 TO 089 | 090 TO 099 | 100 TO 109 | 110 TO 119 | 120 TO 129 | 130 TO 139 | 140 TO 149 | 150 TO 159 | 160 TO 169 | 170 TO 179 | 180 TO 189 | 190 TO 199 | 200 TO 209 | 210 TO 219 | 220 TO 229 | 230 TO 239 | 240 TO 249 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 013 | | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 10- 19 | 012 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 20- 29 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 30- 39 | 010 | | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 40- 49 | 005 | 003 | | 001 | | | | | | | | | | | | | | | | | | | | | | 9 |
| 50- 59 | 020 | 007 | | | | | | | | | | | | | | | | | | | | | | | | 27 |
| 60- 69 | 027 | 016 | 004 | | 001 | | | | | | | | | | | | | | | | | | | | | 48 |
| 70- 79 | 015 | 029 | 014 | 007 | 001 | 001 | 001 | 002 | | 001 | | 002 | | | | | | | | | | | | | | 73 |
| 80- 89 | 018 | 043 | 036 | 038 | 027 | 015 | 008 | 013 | 013 | 004 | 011 | 016 | | | | | | | | | | | | | | 242 |
| 90- 99 | 010 | 049 | 078 | 074 | 049 | 039 | 019 | 019 | 009 | 003 | 010 | 001 | | | | | | | | | | | | | | 360 |
| 100-109 | 012 | 025 | 037 | 053 | 042 | 011 | 009 | 003 | | | | | | | | | | | | | | | | | | 192 |
| 110-119 | 006 | 023 | 031 | 022 | 014 | 004 | 001 | | | | | | | | | | | | | | | | | | | 101 |
| 120-129 | 009 | 013 | 020 | 018 | 006 | 001 | | | | | | | | | | | | | | | | | | | | 67 |
| 130-139 | 010 | 010 | 010 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 33 |
| 140-149 | 009 | 011 | 007 | | | | | | | | | | | | | | | | | | | | | | | 27 |
| 150-159 | 008 | 002 | 005 | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 160-169 | 013 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | | 21 |
| 170-179 | 011 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 180-189 | 009 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | | | 19 |
| 190-199 | 010 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 200-209 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 210-219 | 010 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 220-229 | 005 | 008 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 15 |
| 230-239 | 007 | 007 | 002 | | 001 | | | | | | | | | | | | | | | | | | | | | 17 |
| 240-249 | 013 | 014 | 007 | 003 | 002 | 002 | 002 | 002 | | | | | | | | | | | | | | | | | | 45 |
| 250-259 | 005 | 019 | 016 | 007 | 006 | 010 | 025 | 019 | 013 | 005 | 005 | 001 | | | | | | | | | | | | | | 131 |
| 260-269 | 010 | 024 | 043 | 047 | 068 | 074 | 095 | 148 | 121 | 051 | 068 | 208 | 045 | 002 | | | | | | | | | | | | 1004 |
| 270-279 | 014 | 035 | 050 | 067 | 066 | 075 | 121 | 110 | 077 | 028 | 057 | 088 | 023 | | | | | | | | | | | | | 811 |
| 280-289 | 017 | 030 | 027 | 020 | 007 | 009 | 012 | 005 | 001 | 001 | 001 | | | | | | | | | | | | | | | 130 |
| 290-299 | 013 | 025 | 006 | 003 | | 002 | | | | | | | | | | | | | | | | | | | | 49 |
| 300-309 | 015 | 018 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 37 |
| 310-319 | 006 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 320-329 | 013 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 330-339 | 008 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 340-349 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 350-359 | 010 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| | | 459 | | 364 | | 243 | | 321 | | 93 | | 316 | | 2 | | 0 | | 0 | | 0 | | 0 | | 0 | | 3627 |
| | 390 | | 401 | | 291 | | 293 | | 234 | | 152 | | 68 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

NUMBER OF ZERO RATES 4

JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

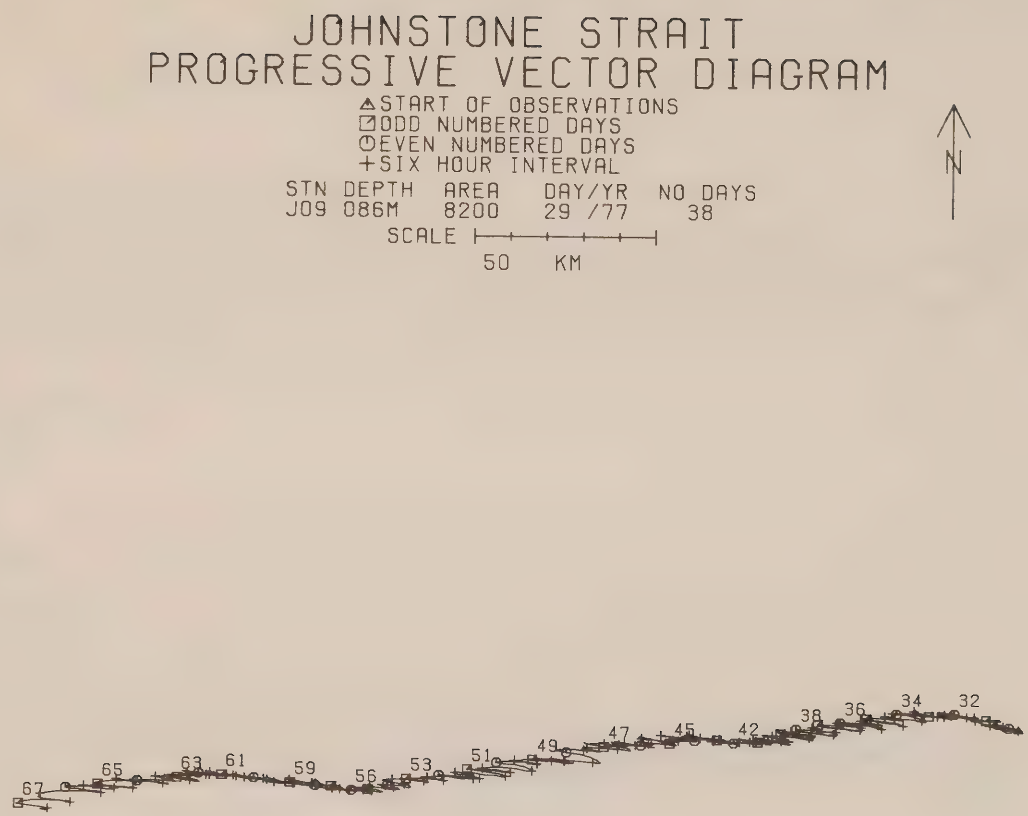
STN J09 DEPTH 086 JOHNSTONE STRAIT 50 22.4 N 125 39.5 W LENGTH OF RECORD= 38 DAYS

START OF RECORD 07 MN 12 HR 29 DY 01 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 009 | 010 TO 019 | 020 TO 029 | 030 TO 039 | 040 TO 049 | 050 TO 059 | 060 TO 069 | 070 TO 079 | 080 TO 089 | 090 TO 099 | 100 TO 109 | 110 TO 119 | 120 TO 129 | 130 TO 139 | 140 TO 149 | 150 TO 159 | 160 TO 169 | 170 TO 179 | 180 TO 189 | 190 TO 199 | 200 TO 209 | 210 TO 219 | 220 TO 229 | 230 TO 239 | 240 TO 249 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 007 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 10- 19 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 20- 29 | 007 | | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 30- 39 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 40- 49 | 010 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 50- 59 | 006 | 007 | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 60- 69 | 013 | 007 | 003 | | 001 | | | | | | | | | | | | | | | | | | | | | 24 |
| 70- 79 | 004 | 009 | 003 | 006 | 004 | 003 | 001 | 001 | | | | | | | | | | | | | | | | | | 31 |
| 80- 89 | 016 | 025 | 016 | 019 | 014 | 011 | 012 | 006 | 005 | 001 | 001 | 002 | | | | | | | | | | | | | | 128 |
| 90- 99 | 014 | 061 | 064 | 085 | 114 | 104 | 055 | 041 | 013 | 024 | 009 | 004 | | | | | | | | | | | | | | 588 |
| 100-109 | 010 | 060 | 088 | 091 | 128 | 087 | 053 | 021 | 011 | 005 | 001 | | | | | | | | | | | | | | | 555 |
| 110-119 | 009 | 039 | 040 | 012 | 009 | 006 | 006 | 003 | 001 | 001 | | | | | | | | | | | | | | | | 126 |
| 120-129 | 010 | 019 | 010 | 004 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 45 |
| 130-139 | 018 | 018 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | 41 |
| 140-149 | 011 | 010 | 003 | | | | | | | | | | | | | | | | | | | | | | | 24 |
| 150-159 | 010 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | | 19 |
| 160-169 | 009 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 170-179 | 008 | 007 | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 180-189 | 015 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 190-199 | 007 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 200-209 | 010 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 210-219 | 007 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 220-229 | 007 | 004 | 004 | | | 001 | | | | | | | | | | | | | | | | | | | | 16 |
| 230-239 | 004 | 008 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | 15 |
| 240-249 | 010 | 014 | 004 | 002 | 002 | 003 | 001 | | | | | | | | | | | | | | | | | | | 36 |
| 250-259 | 006 | 019 | 017 | 011 | 006 | 008 | 006 | 003 | | | | | | | | | | | | | | | | | | 76 |
| 260-269 | 008 | 021 | 036 | 041 | 038 | 037 | 030 | 039 | 023 | 011 | 002 | 003 | 001 | | | | | | | | | | | | | 290 |
| 270-279 | 002 | 026 | 057 | 105 | 112 | 120 | 119 | 159 | 087 | 035 | 022 | 023 | 011 | | | | | | | | | | | | | 878 |
| 280-289 | 008 | 021 | 055 | 069 | 098 | 062 | 025 | 012 | 006 | 003 | 001 | | | | | | | | | | | | | | | 360 |
| 290-299 | 007 | 027 | 027 | 031 | 017 | 004 | | 001 | | | | | | | | | | | | | | | | | | 114 |
| 300-309 | 008 | 016 | 012 | 003 | | | | | | | | | | | | | | | | | | | | | | 39 |
| 310-319 | 006 | 011 | 004 | | | | | | | | | | | | | | | | | | | | | | | 21 |
| 320-329 | 008 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 330-339 | 005 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 340-349 | 014 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 350-359 | 011 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 12 |
| | 316 | 487 | 455 | 482 | 544 | 447 | 308 | 286 | 146 | 80 | 36 | 32 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3631 |

NUMBER OF ZERO RATES 0


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J09 086M 8200 29 /77 38
SCALE
50 KM
N
32
34
36
38
42
45
47
49
51
53
56
59
61
63
65
67

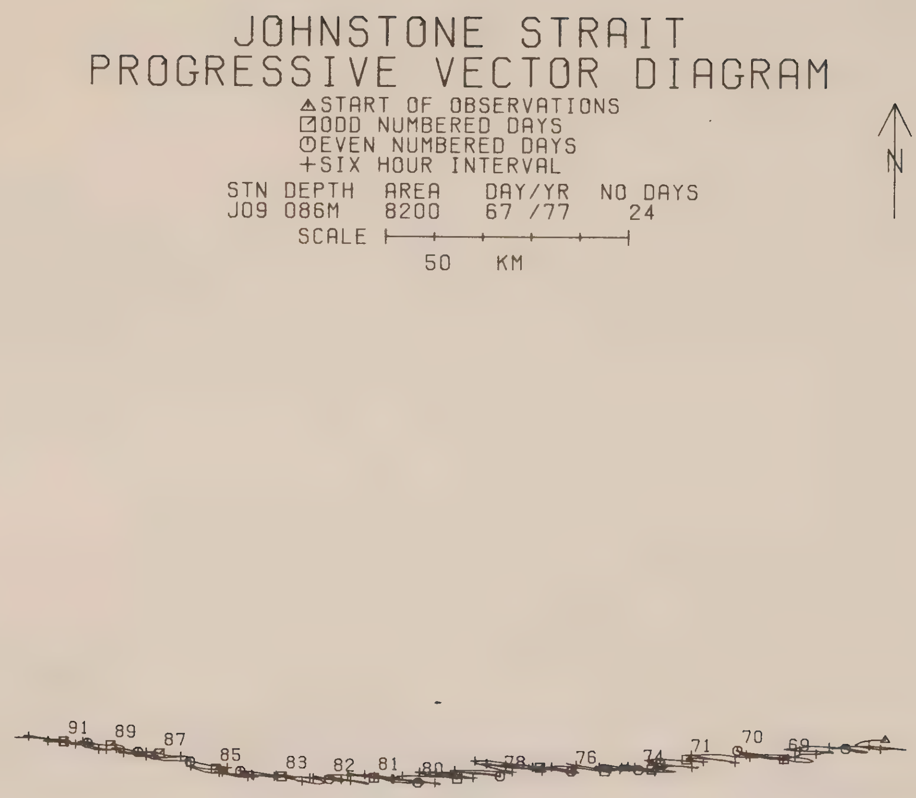
FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J09 DEPTH 086 JOHNSTONE STRAIT 50 22.4 N 125 39.5 W LENGTH OF RECORD= 24 DAYS
START OF RECORD 22 MN 10 HR 8 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 001 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 10- 19 | 001 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 20- 29 | 002 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 30- 39 | | 006 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | 11 |
| 40- 49 | 003 | 004 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 11 |
| 50- 59 | | 003 | 004 | | 001 | | | | | | | | | | | | | | | | | | | | | 8 |
| 60- 69 | 001 | 012 | 004 | 003 | 003 | 001 | 001 | | | | | | | | | | | | | | | | | | | 25 |
| 70- 79 | | 007 | 008 | 003 | 007 | 004 | 004 | 003 | | 002 | 002 | 001 | 002 | | | | | | | | | | | | | 43 |
| 80- 89 | | 009 | 013 | 014 | 008 | 006 | 009 | 003 | 013 | 008 | 005 | 006 | 007 | 004 | 005 | 004 | 001 | | 001 | 001 | | | | | | 117 |
| 90- 99 | | 005 | 017 | 010 | 014 | 018 | 026 | 028 | 029 | 037 | 021 | 032 | 019 | 015 | 017 | 012 | 016 | 003 | 004 | 001 | 002 | | | | | 326 |
| 100-109 | 001 | 007 | 012 | 030 | 015 | 035 | 038 | 041 | 032 | 029 | 035 | 022 | 014 | 013 | 009 | 006 | | 001 | | | | | | | | 340 |
| 110-119 | | 006 | 013 | 012 | 023 | 014 | 002 | 003 | 003 | 002 | 003 | | 001 | | | | | | | | | | | | | 82 |
| 120-129 | | 012 | 006 | 004 | 004 | | 001 | | | | | | | | | | | | | | | | | | | 27 |
| 130-139 | 002 | 009 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | 15 |
| 140-149 | 002 | 008 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 13 |
| 150-159 | 004 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 160-169 | 003 | 004 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | 10 |
| 170-179 | 001 | 006 | 002 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 180-189 | 002 | 001 | 003 | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 190-199 | | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 200-209 | | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 3 |
| 210-219 | 001 | 001 | | 002 | | | | | | | | | | | | | | | | | | | | | | 4 |
| 220-229 | 002 | 005 | 002 | | 002 | | | | | | | | | | | | | | | | | | | | | 11 |
| 230-239 | 002 | 007 | 002 | | | | | 001 | | | 001 | | | | | | | | | | | | | | | 13 |
| 240-249 | 001 | 002 | 004 | 004 | | 003 | 001 | | | | | | 001 | | 001 | | | | | | | | | | | 17 |
| 250-259 | 001 | 001 | 008 | 005 | 006 | 003 | 003 | 003 | 002 | | 004 | 001 | | 002 | | 002 | 002 | | 001 | | | | | | | 44 |
| 260-269 | | 001 | 005 | 015 | 010 | 012 | 016 | 020 | 017 | 014 | 012 | 019 | 009 | 007 | 009 | 010 | 004 | 002 | | 001 | 005 | | | | | 188 |
| 270-279 | | 004 | 004 | 003 | 020 | 019 | 039 | 032 | 047 | 046 | 037 | 038 | 029 | 047 | 043 | 055 | 039 | 025 | 014 | 004 | 006 | 007 | 005 | 007 | 001 | 571 |
| 280-289 | 001 | 005 | 010 | 008 | 015 | 020 | 020 | 029 | 028 | 023 | 034 | 017 | 012 | 008 | 007 | 002 | 003 | | | 001 | 001 | | | | | 244 |
| 290-299 | | 005 | 014 | 010 | 005 | 011 | 007 | 007 | 005 | | 002 | | | | | | | | | | | | | | | 66 |
| 300-309 | | 003 | 008 | 006 | 001 | 001 | | 001 | 001 | | | | | | | | | | | | | | | | | 21 |
| 310-319 | 001 | 005 | 006 | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 320-329 | 002 | 002 | 004 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 330-339 | 001 | 002 | 004 | | 001 | 001 | | | | | | | | | | | | | | | | | | | | 9 |
| 340-349 | 001 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 350-359 | | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | | 6 |
| | 36 | 174 | 171 | 138 | 137 | 148 | 167 | 171 | 177 | 161 | 156 | 136 | 94 | 96 | 91 | 91 | 65 | 31 | 20 | 8 | 14 | 7 | 5 | 7 | 1 | 2302 |

NUMBER OF ZERO RATES 0


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J09 086M 8200 67 /77 24
SCALE
50 KM
N
91
89
87
85
83
82
81
80
78
76
74
71
70
69

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J09 DEPTH 225 JOHNSTONE STRAIT 50 22.4 N 125 39.5 W LENGTH OF RECORD= 38 DAYS

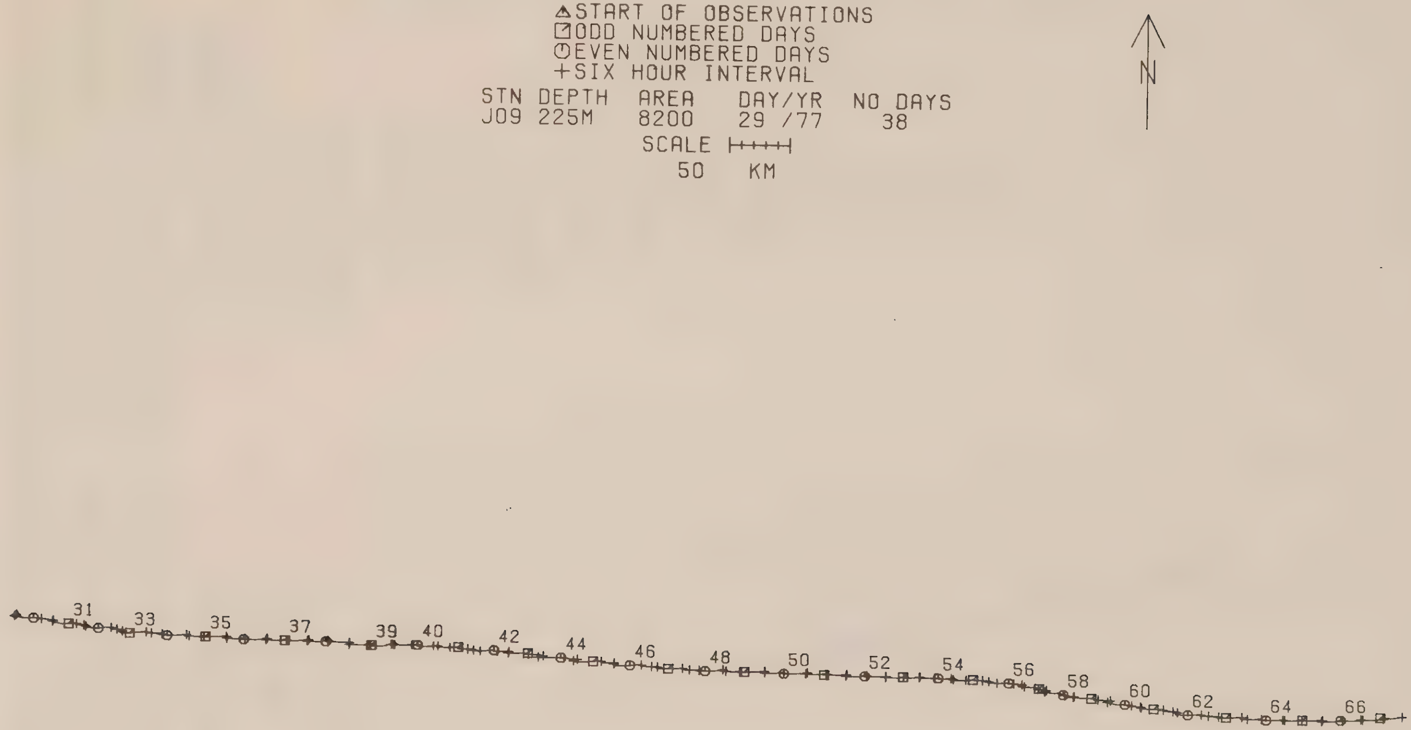
START OF RECORD 7 MN 12 HR 29 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 009 | 010 TO 019 | 020 TO 029 | 030 TO 039 | 040 TO 049 | 050 TO 059 | 060 TO 069 | 070 TO 079 | 080 TO 089 | 090 TO 099 | 100 TO 109 | 110 TO 119 | 120 TO 129 | 130 TO 139 | 140 TO 149 | 150 TO 159 | 160 TO 169 | 170 TO 179 | 180 TO 189 | 190 TO 199 | 200 TO 209 | 210 TO 219 | 220 TO 229 | 230 TO 239 | 240 TO 249 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 003 | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 10- 19 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 20- 29 | 002 | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 30- 39 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 40- 49 | 004 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 50- 59 | 009 | 001 | 004 | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 60- 69 | 003 | 004 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 9 |
| 70- 79 | 004 | 007 | 005 | 004 | 002 | 002 | 006 | 010 | 013 | 016 | 007 | 001 | | | | | | | | | | | | | | 77 |
| 80- 89 | 003 | 009 | 015 | 020 | 039 | 049 | 070 | 140 | 168 | 130 | 069 | 040 | 009 | | | | | | | | | | | | | 761 |
| 90- 99 | 010 | 032 | 033 | 054 | 050 | 100 | 099 | 085 | 094 | 121 | 110 | 071 | 007 | | | | | | | | | | | | | 866 |
| 100-109 | 012 | 030 | 045 | 058 | 056 | 031 | 014 | 008 | 008 | 012 | 001 | | | | | | | | | | | | | | | 275 |
| 110-119 | 017 | 038 | 044 | 031 | 015 | 004 | | | | | | | | | | | | | | | | | | | | 149 |
| 120-129 | 015 | 041 | 019 | 023 | 005 | 002 | | | | | | | | | | | | | | | | | | | | 105 |
| 130-139 | 019 | 035 | 020 | 002 | | | | | | | | | | | | | | | | | | | | | | 76 |
| 140-149 | 020 | 025 | 008 | | | | | | | | | | | | | | | | | | | | | | | 53 |
| 150-159 | 023 | 022 | 008 | | | | | | | | | | | | | | | | | | | | | | | 53 |
| 160-169 | 017 | 016 | 005 | | | | | | | | | | | | | | | | | | | | | | | 38 |
| 170-179 | 018 | 018 | 006 | | | | | | | | | | | | | | | | | | | | | | | 42 |
| 180-189 | 018 | 018 | 001 | | | | | | | | | | | | | | | | | | | | | | | 37 |
| 190-199 | 022 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 30 |
| 200-209 | 022 | 014 | 002 | | | | | | | | | | | | | | | | | | | | | | | 38 |
| 210-219 | 021 | 016 | 013 | | | | | | | | | | | | | | | | | | | | | | | 50 |
| 220-229 | 015 | 016 | 008 | | | | | | | | | | | | | | | | | | | | | | | 39 |
| 230-239 | 018 | 026 | 010 | | | | | | | | | | | | | | | | | | | | | | | 54 |
| 240-249 | 016 | 027 | 012 | 001 | | | | | | | | | | | | | | | | | | | | | | 56 |
| 250-259 | 017 | 048 | 043 | 011 | 009 | 003 | | | | | | | | | | | | | | | | | | | | 131 |
| 260-269 | 023 | 056 | 062 | 039 | 026 | 010 | 001 | | | | | | | | | | | | | | | | | | | 217 |
| 270-279 | 019 | 051 | 044 | 043 | 017 | 013 | 003 | | | | | | | | | | | | | | | | | | | 190 |
| 280-289 | 016 | 037 | 018 | 029 | 013 | 003 | | | | | | | | | | | | | | | | | | | | 116 |
| 290-299 | 014 | 021 | 009 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | 49 |
| 300-309 | 009 | 011 | 002 | | | | | | | | | | | | | | | | | | | | | | | 22 |
| 310-319 | 008 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 320-329 | 005 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 330-339 | 004 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 340-349 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 350-359 | 006 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| | 444 | 651 | 437 | 320 | 233 | 217 | 193 | 243 | 283 | 279 | 187 | 112 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3615 |

NUMBER OF ZERO RATES 17

JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

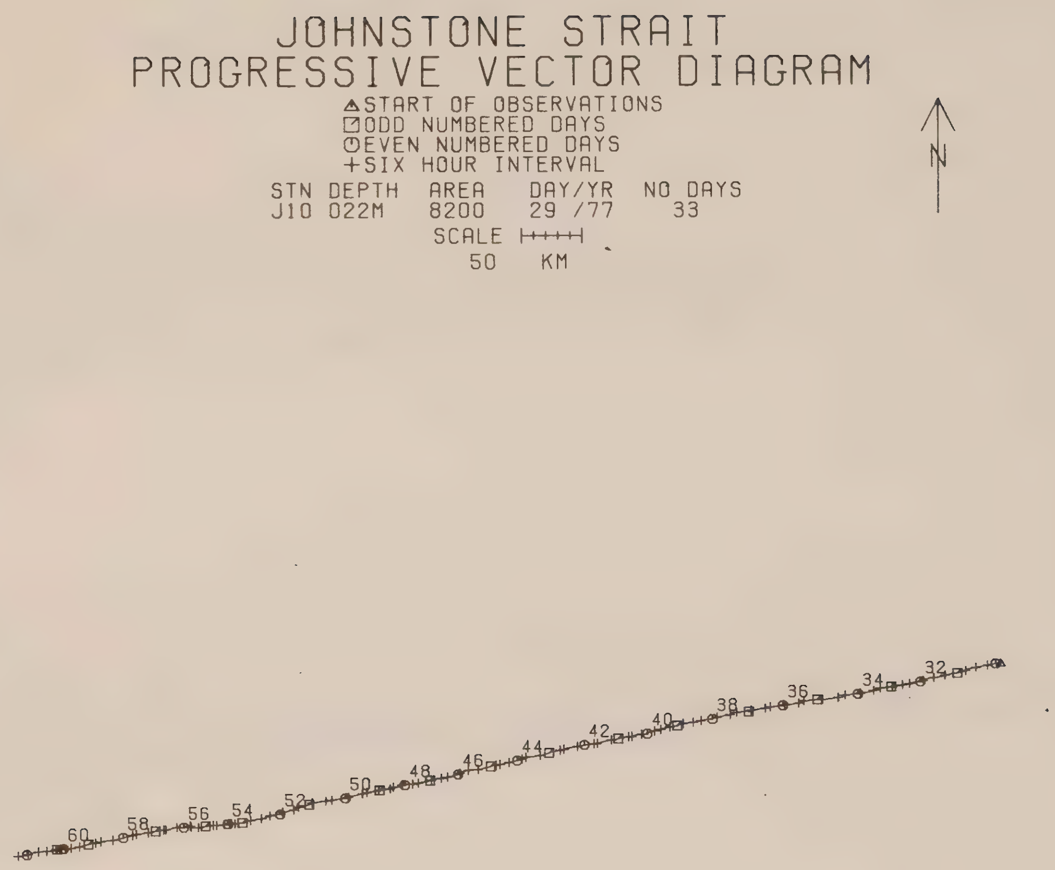
STN J10 DEPTH 022 JOHNSTONE STRAIT 50 29.9 N 126 26.0 W LENGTH OF RECORD= 33 DAYS

START OF RECORD 7 MN 19 HR 29 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 006 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 10- 19 | 003 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 20- 29 | 003 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 30- 39 | 004 | 008 | 003 | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 40- 49 | 006 | 006 | 005 | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 50- 59 | 003 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 60- 69 | 002 | 009 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | 16 |
| 70- 79 | 004 | 010 | 007 | 002 | 001 | 004 | | | | | | | | | | | | | | | | | | | | 28 |
| 80- 89 | 003 | 008 | 012 | 008 | 004 | 003 | | | | | | | | | | | | | | | | | | | | 38 |
| 90- 99 | | 013 | 013 | 013 | 006 | 003 | | | | | | | | | | | | | | | | | | | | 48 |
| 100-109 | 001 | 008 | 008 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | 23 |
| 110-119 | 006 | 006 | 006 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 20 |
| 120-129 | 004 | 008 | 006 | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 130-139 | 002 | 010 | 004 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 140-149 | 004 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 150-159 | 002 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 160-169 | 002 | 011 | 001 | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 170-179 | 002 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 180-189 | 002 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 190-199 | 005 | 010 | 002 | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 200-209 | 001 | 010 | 005 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 210-219 | 002 | 014 | 008 | | 003 | 001 | | | | | | | | | | | | | | | | | | | | 28 |
| 220-229 | 001 | 018 | 015 | 016 | 005 | 001 | | | | | | | | | | | | | | | | | | | | 56 |
| 230-239 | 003 | 016 | 015 | 017 | 015 | 006 | 002 | 004 | 001 | | | | | | | | | | | | | | | | | 79 |
| 240-249 | 002 | 016 | 026 | 038 | 046 | 034 | 033 | 026 | 015 | 007 | 007 | 001 | 002 | | | | | | | | | | | | | 253 |
| 250-259 | 002 | 022 | 032 | 054 | 098 | 108 | 081 | 066 | 090 | 136 | 098 | 073 | 056 | 033 | 015 | | | | | | | | | | | 964 |
| 260-269 | 010 | 022 | 040 | 045 | 052 | 097 | 101 | 122 | 103 | 096 | 094 | 079 | 068 | 034 | 027 | 008 | 001 | | | | | | | | | 999 |
| 270-279 | 004 | 020 | 033 | 031 | 022 | 026 | 030 | 019 | 017 | 012 | 001 | 005 | 004 | 003 | | | | | | | | | | | | 227 |
| 280-289 | 002 | 010 | 020 | 008 | 007 | 005 | 001 | 001 | | | | | | | | | | | | | | | | | | 54 |
| 290-299 | 004 | 007 | 014 | 008 | | | | | | | | | | | | | | | | | | | | | | 33 |
| 300-309 | 005 | 009 | 008 | 003 | | | | | | | | | | | | | | | | | | | | | | 25 |
| 310-319 | 005 | 004 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | 12 |
| 320-329 | 005 | 007 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | 16 |
| 330-339 | 001 | 006 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 340-349 | 005 | 004 | | 001 | | | | | | | | | | | | | | | | | | | | | | 10 |
| 350-359 | 003 | 001 | 005 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| | 119 | 335 | 305 | 253 | 263 | 288 | 248 | 238 | 226 | 251 | 200 | 158 | 130 | 70 | 42 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3135 |

NUMBER OF ZERO RATES 5


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J10 022M 8200 29 /77 33
SCALE
50 KM
N
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN [illegible] DEPTH 022 JOHNSTONE STRAIT 50 29.9 N 126 26.0 W LENGTH OF RECORD= 37 DAYS

START OF RECORD 37 MN 14 HR 3 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 10- 19 | 005 | 010 | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 20- 29 | 004 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 30- 39 | 004 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 40- 49 | 005 | 005 | 003 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 50- 59 | 003 | 008 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | 16 |
| 60- 69 | 009 | 014 | 010 | 002 | 005 | 001 | | | | | | | | | | | | | | | | | | | | 41 |
| 70- 79 | 008 | 015 | 017 | 005 | 011 | 008 | | | | | | | | | | | | | | | | | | | | 64 |
| 80- 89 | 006 | 017 | 025 | 024 | 020 | 017 | 004 | 004 | 001 | | | | | | | | | | | | | | | | | 118 |
| 90- 99 | 008 | 010 | 027 | 022 | 012 | 028 | 025 | 013 | 006 | | | | | | | | | | | | | | | | | 151 |
| 100-109 | 008 | 015 | 016 | 013 | 010 | 008 | 011 | 003 | 001 | 002 | | | | | | | | | | | | | | | | 87 |
| 110-119 | 004 | 018 | 013 | 010 | 005 | | 001 | | | | | | | | | | | | | | | | | | | 51 |
| 120-129 | 007 | 011 | 014 | | | | | | | | | | | | | | | | | | | | | | | 32 |
| 130-139 | 005 | 011 | 010 | 001 | | | | | | | | | | | | | | | | | | | | | | 27 |
| 140-149 | 010 | 010 | 005 | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 150-159 | 002 | 009 | 001 | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 160-169 | 005 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 170-179 | 011 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 180-189 | 007 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 190-199 | 012 | 014 | 003 | | | | | | | | | | | | | | | | | | | | | | | 29 |
| 200-209 | 008 | 005 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 17 |
| 210-219 | 004 | 013 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | 26 |
| 220-229 | 004 | 015 | 006 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | 29 |
| 230-239 | 008 | 016 | 020 | 009 | 004 | 004 | | | | | | | | | | | | | | | | | | | | 61 |
| 240-249 | 005 | 033 | 019 | 018 | 013 | 013 | 007 | | | 003 | | | | | | | | | | | | | | | | 111 |
| 250-259 | 004 | 033 | 061 | 055 | 054 | 039 | 028 | 027 | 020 | 027 | 013 | 015 | 010 | 005 | 001 | 006 | | | | | | | | | | 398 |
| 260-269 | 007 | 022 | 054 | 068 | 111 | 139 | 138 | 101 | 108 | 107 | 103 | 096 | 078 | 064 | 032 | 012 | 001 | | | | | | | | | 1241 |
| 270-279 | 002 | 024 | 036 | 043 | 059 | 047 | 062 | 083 | 059 | 054 | 025 | 023 | 027 | 020 | 002 | | | | | | | | | | | 566 |
| 280-289 | 008 | 017 | 017 | 022 | 014 | 014 | 011 | 005 | 005 | | | | | | | | | | | | | | | | | 113 |
| 290-299 | 006 | 008 | 009 | 010 | 005 | | | | | | | | | | | | | | | | | | | | | 38 |
| 300-309 | 007 | 012 | 008 | 006 | | | | | | | | | | | | | | | | | | | | | | 33 |
| 310-319 | 008 | 008 | 011 | 002 | | | | | | | | | | | | | | | | | | | | | | 29 |
| 320-329 | 006 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 330-339 | 006 | 009 | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 340-349 | 001 | 009 | 003 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 350-359 | 013 | 006 | 002 | | | | | | | | | | | | | | | | | | | | | | | 21 |
| | 224 | 438 | 410 | 316 | 325 | 318 | 287 | 236 | 200 | 193 | 141 | 134 | 115 | 89 | 35 | 18 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3480 |

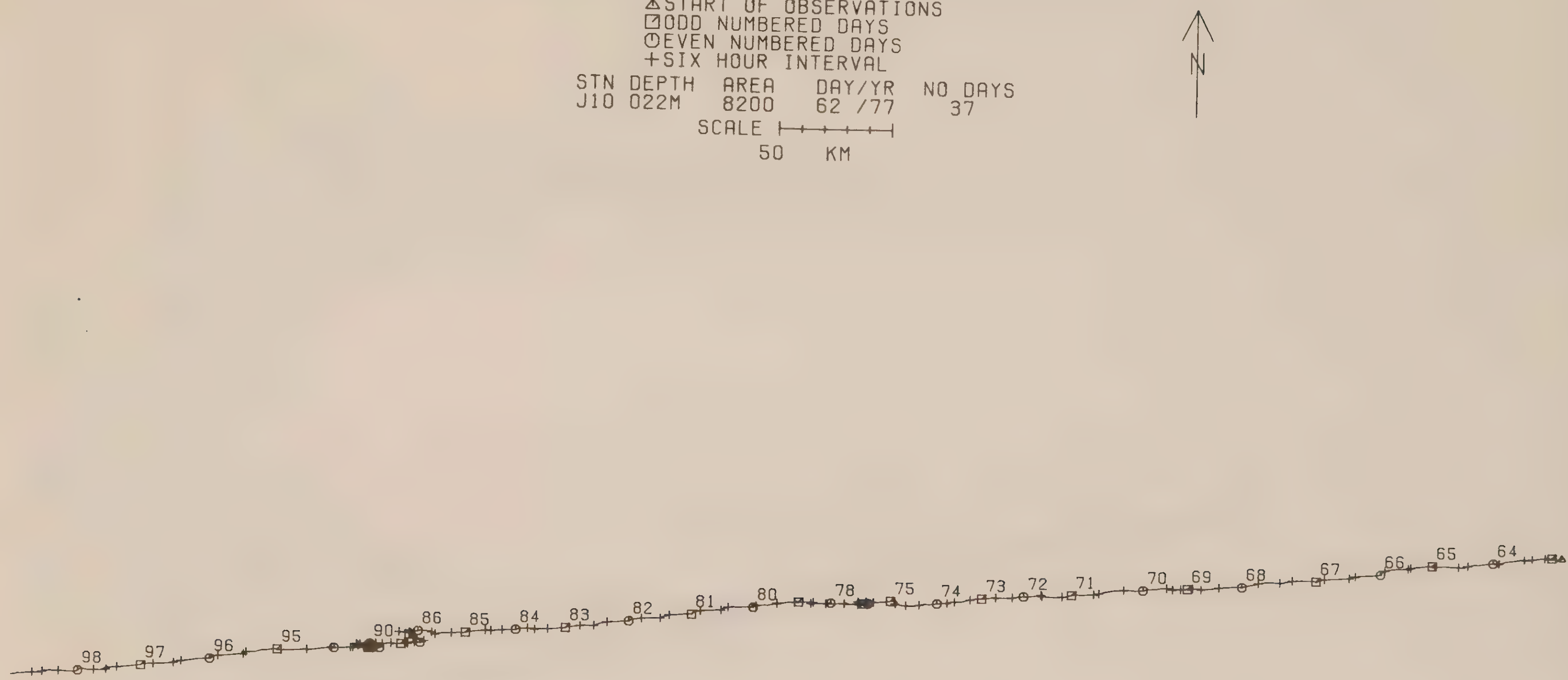
NUMBER OF ZERO RATES 26

# JOHNSTONE STRAIT
# PROGRESSIVE VECTOR DIAGRAM

△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL

| STN | DEPTH | AREA | DAY/YR | NO DAYS |
|---|---|---|---|---|
| J10 | 022M | 8200 | 62 /77 | 37 |

SCALE 50 KM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

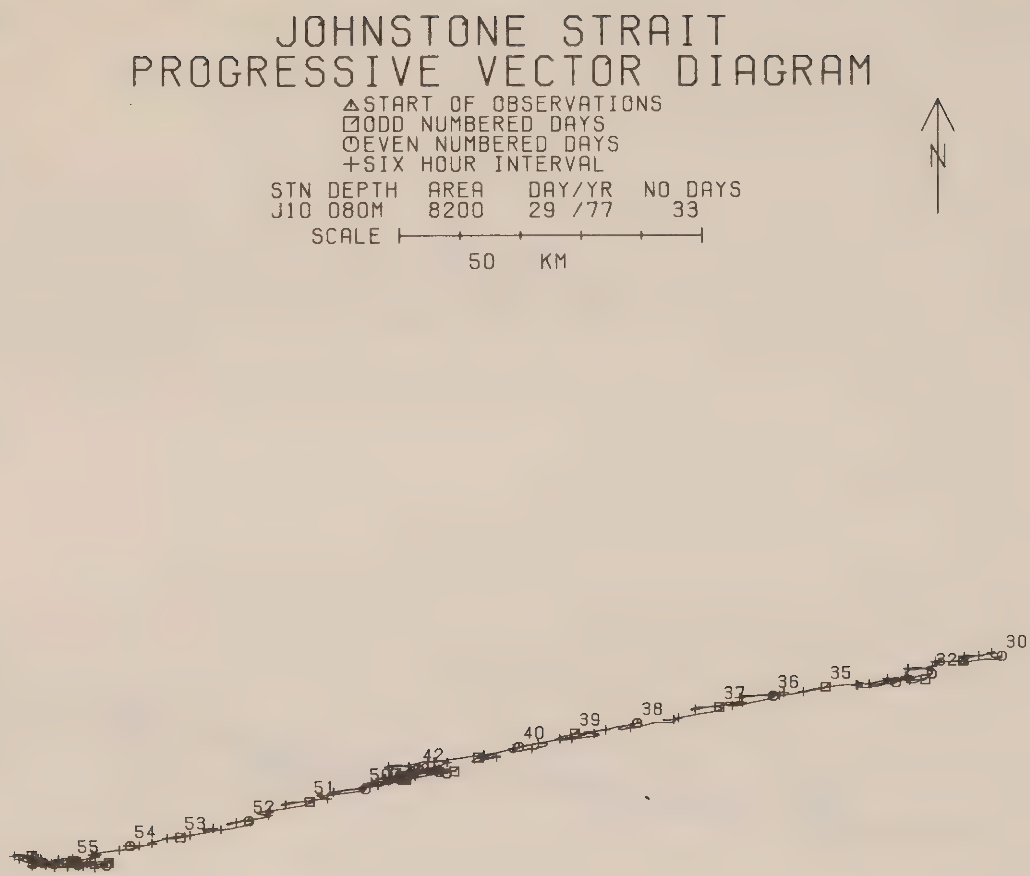
STN J10 DEPTH 080 JOHNSTONE STRAIT 50 29.9 N 126 26.0 W LENGTH OF RECORD= 33 DAYS

START OF RECORD 7 MN 19 HR 29 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 004 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 10- 19 | 007 | 014 | 002 | | | | | | | | | | | | | | | | | | | | | | | 23 |
| 20- 29 | 005 | 016 | 004 | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 30- 39 | 004 | 016 | 004 | | | | | | | | | | | | | | | | | | | | | | | 24 |
| 40- 49 | 004 | 021 | 006 | 003 | | | | | | | | | | | | | | | | | | | | | | 34 |
| 50- 59 | 002 | 013 | 006 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | 25 |
| 60- 69 | 007 | 025 | 027 | 025 | 013 | 004 | | | | | | | | | | | | | | | | | | | | 101 |
| 70- 79 | 005 | 031 | 035 | 026 | 038 | 034 | 034 | 013 | 003 | 001 | | | | | | | | | | | | | | | | 220 |
| 80- 89 | 010 | 016 | 040 | 045 | 060 | 068 | 045 | 027 | 018 | 004 | 001 | | | | | | | | | | | | | | | 334 |
| 90- 99 | 005 | 030 | 037 | 047 | 041 | 035 | 016 | 024 | 018 | 008 | 001 | | | | | | | | | | | | | | | 262 |
| 100-109 | 006 | 017 | 028 | 031 | 023 | 016 | 010 | 005 | 002 | | | | | | | | | | | | | | | | | 138 |
| 110-119 | 003 | 014 | 020 | 012 | 002 | | | | | | | | | | | | | | | | | | | | | 51 |
| 120-129 | 006 | 016 | 006 | 003 | | | | | | | | | | | | | | | | | | | | | | 31 |
| 130-139 | 006 | 008 | 009 | | | | | | | | | | | | | | | | | | | | | | | 23 |
| 140-149 | 005 | 015 | 001 | | | | | | | | | | | | | | | | | | | | | | | 21 |
| 150-159 | 007 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 160-169 | 009 | 007 | | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 170-179 | 005 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 180-189 | 005 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 190-199 | 007 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 200-209 | 003 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 210-219 | 006 | 012 | 002 | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 220-229 | 001 | 012 | 009 | 001 | | | | | | | | | | | | | | | | | | | | | | 23 |
| 230-239 | 007 | 016 | 014 | 005 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | | | 46 |
| 240-249 | 006 | 021 | 031 | 017 | 024 | 014 | 009 | | | | | | | | | | | | | | | | | | | 122 |
| 250-259 | 005 | 023 | 032 | 049 | 064 | 050 | 048 | 049 | 043 | 029 | 022 | 019 | 002 | 002 | | | | | | | | | | | | 437 |
| 260-269 | 005 | 025 | 042 | 044 | 068 | 075 | 065 | 069 | 057 | 073 | 036 | 013 | 004 | | | | | | | | | | | | | 576 |
| 270-279 | 006 | 028 | 043 | 041 | 042 | 039 | 011 | 007 | 005 | 002 | 001 | | | | | | | | | | | | | | | 224 |
| 280-289 | 001 | 022 | 029 | 025 | 011 | 001 | 001 | | | | | | | | | | | | | | | | | | | 90 |
| 290-299 | 006 | 019 | 026 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | 61 |
| 300-309 | 005 | 017 | 009 | | | | | | | | | | | | | | | | | | | | | | | 31 |
| 310-319 | 007 | 012 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | | 29 |
| 320-329 | 002 | 015 | 003 | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 330-339 | 004 | 015 | 001 | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 340-349 | 006 | 018 | 001 | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 350-359 | 002 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| | 184 | 551 | 484 | 387 | 391 | 336 | 240 | 194 | 146 | 117 | 61 | 32 | 6 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3131 |

NUMBER OF ZERO RATES 9


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J10 080M 8200 29 /77 33
SCALE
50 KM
N
30
32
35
36
37
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39
40
42
50
51
52
53
54
55

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J10 DEPTH 087 JOHNSTONE STRAIT 50 29.9 N 126 26.0 W LENGTH OF RECORD= 64 DAYS

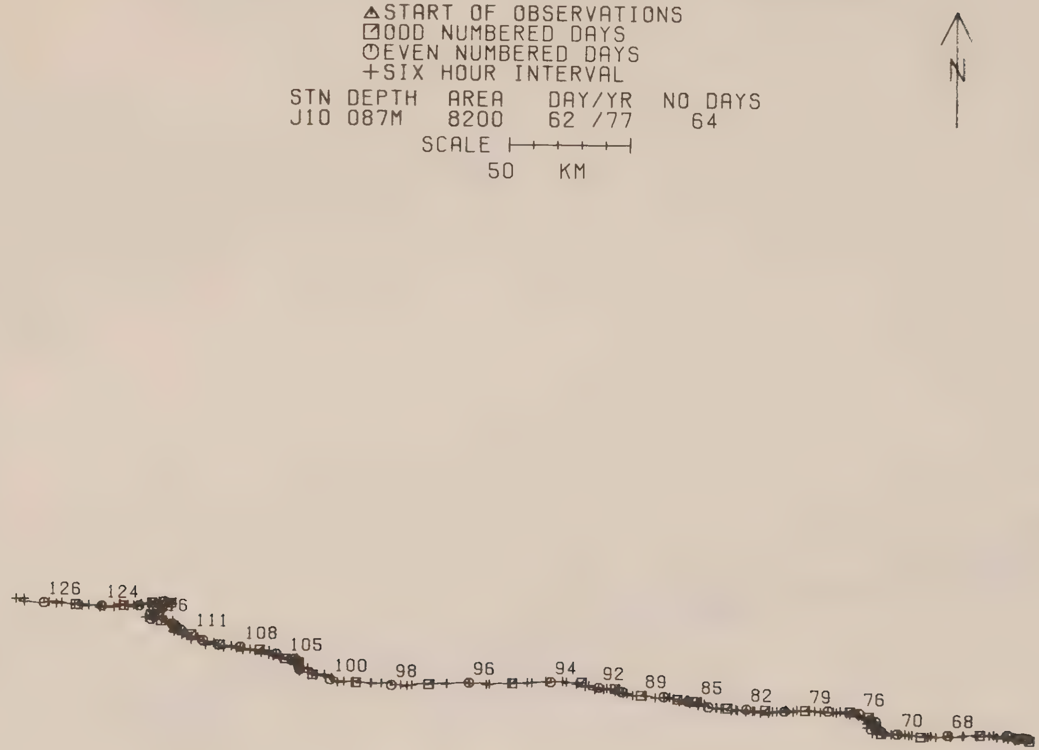
START OF RECORD 22 MN 14 HR 3 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 016 | 025 | 003 | | | | | | | | | | | | | | | | | | | | | | | 44 |
| 10- 19 | 019 | 027 | 003 | | | | | | | | | | | | | | | | | | | | | | | 49 |
| 20- 29 | 013 | 032 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | 48 |
| 30- 39 | 011 | 030 | 011 | 002 | | | | | | | | | | | | | | | | | | | | | | 54 |
| 40- 49 | 011 | 032 | 019 | 007 | | | | | | | | | | | | | | | | | | | | | | 69 |
| 50- 59 | 013 | 048 | 040 | 015 | 004 | | | | | | | | | | | | | | | | | | | | | 120 |
| 60- 69 | 011 | 044 | 058 | 042 | 025 | 017 | 002 | | | | | | | | | | | | | | | | | | | 199 |
| 70- 79 | 018 | 054 | 074 | 079 | 102 | 066 | 026 | 006 | | 001 | | | | | | | | | | | | | | | | 426 |
| 80- 89 | 008 | 055 | 101 | 116 | 121 | 099 | 051 | 011 | 005 | | | | | | | | | | | | | | | | | 567 |
| 90- 99 | 014 | 040 | 081 | 089 | 116 | 082 | 039 | 015 | 003 | 001 | | | | | | | | | | | | | | | | 480 |
| 100-109 | 008 | 037 | 046 | 048 | 032 | 020 | 006 | 003 | 001 | | | | | | | | | | | | | | | | | 201 |
| 110-119 | 009 | 027 | 020 | 015 | 012 | 001 | 002 | | | | | | | | | | | | | | | | | | | 86 |
| 120-129 | 016 | 016 | 012 | 005 | | | | | | | | | | | | | | | | | | | | | | 49 |
| 130-139 | 015 | 017 | 011 | 002 | | | | | | | | | | | | | | | | | | | | | | 45 |
| 140-149 | 006 | 019 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 28 |
| 150-159 | 011 | 010 | | | | | | | | | | | | | | | | | | | | | | | | 21 |
| 160-169 | 011 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | | | 21 |
| 170-179 | 011 | 009 | 001 | | | | | | | | | | | | | | | | | | | | | | | 21 |
| 180-189 | 008 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 190-199 | 012 | 006 | 003 | | | | | | | | | | | | | | | | | | | | | | | 21 |
| 200-209 | 006 | 006 | | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 210-219 | 010 | 015 | | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 220-229 | 008 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 230-239 | 008 | 024 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | 41 |
| 240-249 | 010 | 019 | 017 | 013 | 004 | 002 | 001 | | | | | | | | | | | | | | | | | | | 66 |
| 250-259 | 009 | 025 | 044 | 039 | 052 | 045 | 024 | 016 | 010 | 001 | 005 | 006 | | | | | | | | | | | | | | 276 |
| 260-269 | 010 | 043 | 071 | 091 | 131 | 145 | 170 | 139 | 099 | 077 | 064 | 028 | 011 | 002 | | | | | | | | | | | | 1081 |
| 270-279 | 007 | 035 | 077 | 144 | 147 | 168 | 137 | 132 | 091 | 065 | 028 | 010 | 005 | 002 | | | | | | | | | | | | 1048 |
| 280-289 | 005 | 053 | 070 | 095 | 086 | 074 | 028 | 021 | 008 | 003 | | 001 | | | | | | | | | | | | | | 444 |
| 290-299 | 014 | 051 | 060 | 033 | 027 | 004 | 001 | | | | | | | | | | | | | | | | | | | 190 |
| 300-309 | 014 | 052 | 032 | 017 | 005 | | | | | | | | | | | | | | | | | | | | | 120 |
| 310-319 | 010 | 052 | 024 | 001 | | | | | | | | | | | | | | | | | | | | | | 87 |
| 320-329 | 014 | 031 | 013 | | | | | | | | | | | | | | | | | | | | | | | 58 |
| 330-339 | 011 | 024 | 006 | | | | | | | | | | | | | | | | | | | | | | | 41 |
| 340-349 | 009 | 043 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 55 |
| 350-359 | 018 | 027 | 003 | | | | | | | | | | | | | | | | | | | | | | | 48 |
| | 404 | 1049 | 917 | 858 | 864 | 723 | 487 | 343 | 217 | 148 | 97 | 45 | 16 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6172 |

NUMBER OF ZERO RATES 5

JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

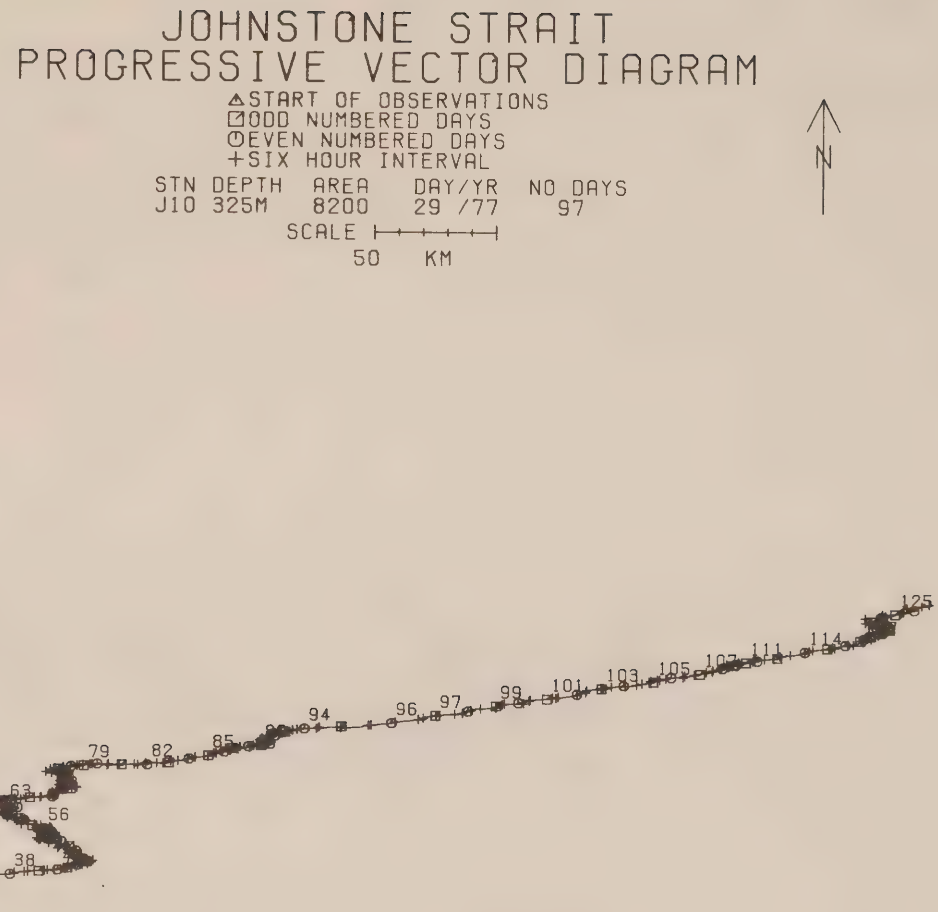
STN J10 DEPTH 325 JOHNSTONE ST. 50 29.9 N 126 26.0 W LENGTH OF RECORD= 97 DAYS

START OF RECORD 00 MN 20 HR 29 DY 01 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 021 | 009 | 005 | | | | | | | | | | | | | | | | | | | | | | | 35 |
| 10- 19 | 013 | 021 | 004 | | | | | | | | | | | | | | | | | | | | | | | 38 |
| 20- 29 | 019 | 029 | 006 | 002 | | | | | | | | | | | | | | | | | | | | | | 56 |
| 30- 39 | 021 | 031 | 015 | 001 | | | | | | | | | | | | | | | | | | | | | | 68 |
| 40- 49 | 017 | 042 | 040 | 012 | 004 | | | | | | | | | | | | | | | | | | | | | 115 |
| 50- 59 | 021 | 060 | 050 | 057 | 021 | 006 | | | | | | | | | | | | | | | | | | | | 215 |
| 60- 69 | 020 | 061 | 082 | 075 | 080 | 046 | 031 | 014 | 003 | | | | | | | | | | | | | | | | | 412 |
| 70- 79 | 024 | 049 | 106 | 143 | 166 | 167 | 201 | 195 | 102 | 049 | 031 | 010 | 005 | 002 | | | | | | | | | | | | 1250 |
| 80- 89 | 020 | 068 | 093 | 142 | 166 | 218 | 232 | 251 | 212 | 144 | 118 | 085 | 043 | 020 | 002 | | | | | | | | | | | 1814 |
| 90- 99 | 019 | 038 | 083 | 060 | 054 | 038 | 039 | 040 | 057 | 029 | 030 | 024 | 016 | 008 | 003 | | | | | | | | | | | 538 |
| 100-109 | 014 | 040 | 037 | 009 | 002 | 004 | 002 | 002 | 003 | | | | | | | | | | | | | | | | | 113 |
| 110-119 | 017 | 036 | 018 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | 76 |
| 120-129 | 016 | 024 | 009 | | | | | | | | | | | | | | | | | | | | | | | 49 |
| 130-139 | 018 | 026 | 002 | | | | | | | | | | | | | | | | | | | | | | | 46 |
| 140-149 | 010 | 018 | | | | | | | | | | | | | | | | | | | | | | | | 28 |
| 150-159 | 015 | 006 | 002 | | | | | | | | | | | | | | | | | | | | | | | 23 |
| 160-169 | 009 | 015 | 001 | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 170-179 | 015 | 010 | 002 | | | | | | | | | | | | | | | | | | | | | | | 27 |
| 180-189 | 013 | 011 | 001 | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 190-199 | 017 | 015 | 004 | | | | | | | | | | | | | | | | | | | | | | | 36 |
| 200-209 | 019 | 019 | 006 | | | | | | | | | | | | | | | | | | | | | | | 44 |
| 210-219 | 026 | 042 | 010 | 002 | | | | | | | | | | | | | | | | | | | | | | 80 |
| 220-229 | 014 | 033 | 020 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | 72 |
| 230-239 | 033 | 058 | 060 | 017 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 171 |
| 240-249 | 020 | 095 | 091 | 094 | 022 | 007 | 003 | | | | | | | | | | | | | | | | | | | 332 |
| 250-259 | 027 | 089 | 146 | 190 | 120 | 071 | 028 | 001 | | | | | | | | | | | | | | | | | | 672 |
| 260-269 | 044 | 079 | 181 | 246 | 249 | 218 | 159 | 103 | 025 | 005 | | | | | | | | | | | | | | | | 1309 |
| 270-279 | 029 | 075 | 119 | 145 | 131 | 163 | 116 | 100 | 044 | 024 | 001 | | | | | | | | | | | | | | | 947 |
| 280-289 | 025 | 049 | 090 | 067 | 036 | 017 | 018 | 004 | 002 | 001 | | | | | | | | | | | | | | | | 309 |
| 290-299 | 023 | 042 | 038 | 012 | 002 | | | | | | | | | | | | | | | | | | | | | 117 |
| 300-309 | 020 | 027 | 014 | 002 | | | | | | | | | | | | | | | | | | | | | | 63 |
| 310-319 | 023 | 019 | 007 | | | | | | | | | | | | | | | | | | | | | | | 49 |
| 320-329 | 015 | 025 | 005 | | | | | | | | | | | | | | | | | | | | | | | 45 |
| 330-339 | 020 | 020 | | | | | | | | | | | | | | | | | | | | | | | | 40 |
| 340-349 | 014 | 020 | | | | | | | | | | | | | | | | | | | | | | | | 34 |
| 350-359 | 018 | 024 | 003 | | | | | | | | | | | | | | | | | | | | | | | 45 |
| | 711 | 1326 | 1350 | 1283 | 1058 | 956 | 829 | 710 | 448 | 252 | 180 | 119 | 64 | 30 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9321 |

NUMBER OF ZERO RATES 1


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J10 325M 8200 29 /77 97
SCALE
50 KM
N
32
35
38
56
63
79
82
85
94
96
97
99
101
103
105
107
111
114
125

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J11 DEPTH 015 JOHNSTONE STRAIT 50 33.4 N 126 47.7 W LENGTH OF RECORD= 4 DAYS

START OF RECORD 22 MN 17 HR 30 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | | 002 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 10- 19 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 20- 29 | | | | | 001 | | | | | | | | | | | | | | | | | | | | | 1 |
| 30- 39 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 40- 49 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 50- 59 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 60- 69 | | | | | | 001 | | | | | | | | | | | | | | | | | | | | 1 |
| 70- 79 | | | | | 001 | 002 | 001 | | | 001 | | | | | | | | | | | | | | | | 5 |
| 80- 89 | | | | | 001 | 001 | | 003 | 002 | | 002 | 001 | | | 001 | | | | | | | | | | | 11 |
| 90- 99 | | | | 001 | 001 | | 001 | 001 | 001 | 001 | 002 | 001 | 002 | | | | | | | | | | | | | 11 |
| 100-109 | | | 001 | | | | | 002 | 001 | 003 | 002 | 003 | 001 | 001 | 001 | | | | | | | | | | | 15 |
| 110-119 | | | | | | 001 | | 001 | 001 | | | | | 001 | 001 | | | | | | | | | | | 5 |
| 120-129 | | | | 001 | | | | 001 | | | | | 001 | | 002 | 002 | | | | | | | | | | 7 |
| 130-139 | | | | 001 | 002 | 001 | | | | | | | 001 | | | 001 | | | | | | | | | | 6 |
| 140-149 | | | | | 002 | | | | | | | 001 | | | | | | | | | | | | | | 3 |
| 150-159 | | | | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 3 |
| 160-169 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 170-179 | | 001 | | | | 001 | | | | | | | | | | | | | | | | | | | | 2 |
| 180-189 | | 001 | | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 190-199 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 200-209 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 210-219 | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 220-229 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 230-239 | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 240-249 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 250-259 | | | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | 3 |
| 260-269 | | 002 | 002 | 001 | 001 | | 002 | | | | | | | | | | | | | | | | | | | 8 |
| 270-279 | | | 003 | 003 | 004 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | | 14 |
| 280-289 | | | 006 | 005 | 004 | 005 | 012 | 007 | 005 | 002 | 001 | 002 | | | | | | | | | | | | | | 49 |
| 290-299 | | 001 | 001 | 001 | 003 | 004 | 022 | 015 | 013 | 019 | 014 | 016 | 019 | 007 | 005 | | | | | | | | | | | 140 |
| 300-309 | | 001 | | | 002 | 005 | 010 | 013 | 009 | 009 | 012 | 014 | 008 | 002 | | | | | | | | | | | | 85 |
| 310-319 | | | 002 | | 001 | 001 | | 004 | 003 | 003 | 005 | | 001 | | | | | | | | | | | | | 20 |
| 320-329 | | | 003 | 001 | 003 | | 001 | 001 | | | | | | | | | | | | | | | | | | 9 |
| 330-339 | | | | | | | 001 | | | | | | | | | | | | | | | | | | | 1 |
| 340-349 | | | 001 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 350-359 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| | 0 | 9 | 22 | 23 | 27 | 24 | 51 | 49 | 35 | 38 | 38 | 38 | 33 | 11 | 10 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 411 |

NUMBER OF ZERO RATES 0

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J11 DEPTH 035 JOHNSTONE STRAIT 50 33.4 N 126 47.7 W LENGTH OF RECORD= 2 DAYS

START OF RECORD 7 MN 19 HR 5 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | | | | | 002 | | | | | | | | | | | | | | | | | | | | | 2 |
| 10- 19 | | 002 | | 001 | | | | | | | | | | | | | | | | | | | | | | 3 |
| 20- 29 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 30- 39 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 40- 49 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 50- 59 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 60- 69 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 70- 79 | | | 001 | | | | 001 | | | 001 | | | | | | | | | | | | | | | | 3 |
| 80- 89 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 90- 99 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 100-109 | | | | | | | 001 | | | | | | | | | | | | | | | | | | | 1 |
| 110-119 | | | | | 002 | | | 001 | | | | | | | | | | | | | | | | | | 3 |
| 120-129 | | | | | 001 | | 001 | | | | | | | | | | | | | | | | | | | 2 |
| 130-139 | | 001 | | | | | 001 | | | | | | | | | | | | | | | | | | | 2 |
| 140-149 | | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 2 |
| 150-159 | | | 001 | 001 | | 001 | | | | | | | | | | | | | | | | | | | | 3 |
| 160-169 | | | | | 001 | | | | | | | | | | | | | | | | | | | | | 1 |
| 170-179 | | | | 001 | | 002 | | | | | | | | | | | | | | | | | | | | 3 |
| 180-189 | | | | | 001 | | | 001 | | | | | | | | | | | | | | | | | | 2 |
| 190-199 | | | | 001 | | | 001 | | | | | | | | | | | | | | | | | | | 2 |
| 200-209 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 210-219 | | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 2 |
| 220-229 | 001 | | 001 | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 230-239 | | 001 | | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 240-249 | | | | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 3 |
| 250-259 | 001 | | | | 001 | | 001 | 002 | | | | | | | | | | | | | | | | | | 5 |
| 260-269 | | | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 3 |
| 270-279 | | | | 001 | 001 | 001 | 001 | 002 | 002 | 003 | 001 | | 001 | | | | | | | | | | | | | 13 |
| 280-289 | | 002 | 001 | 002 | 002 | 003 | 002 | 001 | 004 | 007 | 002 | 004 | | 005 | 001 | | | | | | | | | | | 36 |
| 290-299 | | 001 | 002 | | | 002 | 003 | 003 | 010 | 001 | 008 | 003 | 001 | 003 | 002 | | | | | | | | | | | 39 |
| 300-309 | | | 001 | 002 | 003 | 002 | | 002 | | 003 | 004 | 002 | | | | | | | | | | | | | | 19 |
| 310-319 | | | 002 | | 001 | 001 | 003 | 001 | 002 | | 001 | 001 | | | | | | | | | | | | | | 12 |
| 320-329 | | | 001 | | 001 | 001 | | | | | | | | | | | | | | | | | | | | 3 |
| 330-339 | 001 | | 001 | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 340-349 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 350-359 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| | 5 | 8 | 12 | 15 | 20 | 14 | 15 | 13 | 18 | 15 | 16 | 10 | 2 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 174 |

NUMBER OF ZERO RATES 0

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J11 DEPTH 085 JOHNSTONE STRAIT 50 32.4 N 126 47.7 W LENGTH OF RECORD= 4 DAYS

START OF RECORD 32 MN 17 HR 30 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | | | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 3 |
| 10- 19 | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 20- 29 | 001 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 4 |
| 30- 39 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 40- 49 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 50- 59 | | 001 | 001 | | 002 | | | | | | | | | | | | | | | | | | | | | 4 |
| 60- 69 | | 002 | | 001 | | | | | | | | | | | | | | | | | | | | | | 3 |
| 70- 79 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 80- 89 | | 001 | 001 | | | | | 002 | 002 | | 001 | | | | | | | | | | | | | | | 7 |
| 90- 99 | | 002 | | 001 | | | 001 | | 002 | 002 | | 002 | 001 | 001 | | | | | | | | | | | | 12 |
| 100-109 | 002 | 001 | 001 | 003 | 002 | 001 | 001 | 002 | 002 | 002 | 002 | 005 | | 001 | | 001 | 001 | 001 | | | | | | | | 28 |
| 110-119 | | 002 | 004 | 001 | 002 | 002 | 001 | 001 | 002 | 005 | 001 | 001 | 001 | 003 | 003 | 001 | 001 | 001 | | | | | | | | 32 |
| 120-129 | | 002 | 002 | 008 | 002 | 001 | 002 | | 001 | | | | | | 001 | 001 | 001 | | | | | | | | | 21 |
| 130-139 | 001 | 002 | 004 | | 001 | 004 | 003 | | 002 | 002 | | | | | | | | | | | | | | | | 19 |
| 140-149 | | | 002 | 002 | | | 003 | 002 | 001 | | | | | | | | | | | | | | | | | 10 |
| 150-159 | | | | | 002 | | 001 | | | | | | | | | | | | | | | | | | | 3 |
| 160-169 | | 002 | | | 002 | | | | | | | | | | | | | | | | | | | | | 4 |
| 170-179 | | | | | 001 | | | | | | | | | | | | | | | | | | | | | 1 |
| 180-189 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 190-199 | 001 | 001 | | | 001 | | | | | | | | | | | | | | | | | | | | | 3 |
| 200-209 | | 002 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 210-219 | | 003 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 220-229 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 230-239 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 240-249 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 250-259 | | [illegible] | 002 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 260-269 | | | 002 | 004 | | | | | | | | | | | | | | | | | | | | | | 6 |
| 270-279 | | | 004 | 005 | 003 | | | | | | | | | | | | | | | | | | | | | 12 |
| 280-289 | | 004 | 003 | [illegible] | 005 | 003 | | | | | | | | | | | | | | | | | | | | 22 |
| 290-299 | | 002 | 007 | 009 | 009 | 048 | 004 | 009 | | | | | | | | | | | | | | | | | | 41 |
| 300-309 | | 005 | 007 | 009 | 010 | 012 | 012 | 013 | 005 | | | | | | | | | | | | | | | | | 70 |
| 310-319 | | 003 | 005 | 007 | 007 | 003 | 012 | 000 | | | | | | | | | | | | | | | | | | 43 |
| 320-329 | | [illegible] | [illegible] | [illegible] | [illegible] | 002 | 002 | | | | | | | | | | | | | | | | | | | 24 |
| 330-339 | | [illegible] | [illegible] | [illegible] | | | | | | | | | | | | | | | | | | | | | | 15 |
| 340-349 | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | [illegible] |
| 350-359 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| | | [illegible] | | [illegible] | | 36 | | 36 | | 11 | | 9 | | 5 | | 3 | | 2 | | 0 | | 0 | | 0 | | 410 |
| | 5 | | 62 | | 45 | | 42 | | 17 | | 4 | | 2 | | 4 | | 3 | | 0 | | 0 | | 0 | | 0 | |

NUMBER OF ZERO RATES 0

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J11 DEPTH 200 JOHNSTONE STRAIT 50 33.4 N 126 47.7 W LENGTH OF RECORD= 2 DAYS

START OF RECORD 7 MN 19 HR 5 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 10- 19 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 20- 29 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 30- 39 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 40- 49 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 50- 59 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 60- 69 | | | | | | 001 | | | | | | | | | | | | | | | | | | | | 1 |
| 70- 79 | | 001 | | | | | 001 | | | | | | | | | | | | | | | | | | | 2 |
| 80- 89 | | | | | | 001 | | 001 | | 001 | 001 | 001 | | | | | | | | | | | | | | 5 |
| 90- 99 | | | 001 | | | | 001 | | 002 | 003 | 001 | 002 | | | | 001 | | | | | | | | | | 11 |
| 100-109 | | | | 001 | 001 | | 002 | 001 | 002 | 002 | 003 | 003 | | 002 | | | | | | | | | | | | 17 |
| 110-119 | | 002 | | 002 | 002 | 002 | 002 | 003 | 002 | 001 | 002 | 002 | | | | | | | | | | | | | | 20 |
| 120-129 | | | 001 | | | | 002 | 001 | 002 | 001 | | | | | | | | | | | | | | | | 7 |
| 130-139 | | | | | | | | 002 | | | | 001 | | | | | | | | | | | | | | 3 |
| 140-149 | | | | | | | 002 | | 001 | | 001 | | | | | | | | | | | | | | | 4 |
| 150-159 | | 001 | | | | | 001 | 001 | 001 | | | | | | | | | | | | | | | | | 4 |
| 160-169 | | | | 001 | | 001 | | | | | | | | | | | | | | | | | | | | 2 |
| 170-179 | | | | 001 | | | 001 | | | | | | | | | | | | | | | | | | | 2 |
| 180-189 | 001 | | | 001 | 003 | 003 | | | | | | | | | | | | | | | | | | | | 8 |
| 190-199 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 200-209 | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 210-219 | | 001 | | | 001 | | | | | | | | | | | | | | | | | | | | | 2 |
| 220-229 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 230-239 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 240-249 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 250-259 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 260-269 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 270-279 | | 002 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 4 |
| 280-289 | | 002 | 001 | 006 | 006 | 004 | 001 | | | | | | | | | | | | | | | | | | | 20 |
| 290-299 | | | 001 | | 003 | 011 | 008 | 004 | | | | | | | | | | | | | | | | | | 27 |
| 300-309 | | | | 001 | 002 | 007 | 008 | 001 | | | | | | | | | | | | | | | | | | 19 |
| 310-319 | | | | | 003 | 002 | | | | | | | | | | | | | | | | | | | | 5 |
| 320-329 | | 001 | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | 3 |
| 330-339 | | | | | 001 | | | | | | | | | | | | | | | | | | | | | 1 |
| 340-349 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 350-359 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| | 3 | 10 | 6 | 18 | 23 | 33 | 29 | 14 | 10 | 8 | 8 | 9 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 174 |

NUMBER OF ZERO RATES 0

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J11 DEPTH 315 JOHNSTONE STRAIT 50 33.4 N 12[illegible] 47.7 W LENGTH OF RECORD= 4 DAYS

START OF RECORD 22 MN 17 HR 30 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 009 | 010 TO 019 | 020 TO 029 | 030 TO 039 | 040 TO 049 | 050 TO 059 | 060 TO 069 | 070 TO 079 | 080 TO 089 | 090 TO 099 | 100 TO 109 | 110 TO 119 | 120 TO 129 | 130 TO 139 | 140 TO 149 | 150 TO 159 | 160 TO 169 | 170 TO 179 | 180 TO 189 | 190 TO 199 | 200 TO 209 | 210 TO 219 | 220 TO 229 | 230 TO 239 | 240 TO 249 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 10- 19 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 20- 29 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 30- 39 | 002 | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 40- 49 | 001 | 002 | | 001 | | | | | | | | | | | | | | | | | | | | | | 4 |
| 50- 59 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 60- 69 | 002 | 001 | | | 001 | | | | | | | | | | | | | | | | | | | | | 4 |
| 70- 79 | 001 | 002 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | 7 |
| 80- 89 | 003 | 007 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 12 |
| 90- 99 | 003 | 007 | 009 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | 26 |
| 100-109 | 005 | 003 | 009 | 009 | 005 | 002 | 001 | | | | | | | | | | | | | | | | | | | 34 |
| 110-119 | 003 | 006 | 011 | 005 | 002 | 001 | | 001 | | | | | | | | | | | | | | | | | | 29 |
| 120-129 | 005 | 004 | 008 | 001 | 005 | 001 | 001 | 001 | | | 001 | | | | | | | | | | | | | | | 28 |
| 130-139 | 004 | 005 | 003 | 001 | 004 | 001 | 002 | | | 003 | | 002 | 002 | | | | | | | | | | | | | 27 |
| 140-149 | 004 | | 002 | 002 | | 001 | 001 | 004 | | 001 | 002 | 002 | 002 | 002 | | | | | | | | | | | | 24 |
| 150-159 | 005 | | | 001 | 001 | 001 | 001 | | 003 | 001 | 001 | 006 | 003 | | | | | | | | | | | | | 25 |
| 160-169 | 003 | 004 | | | 001 | | | | | | | | | | | | | | | | | | | | | 8 |
| 170-179 | 004 | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 180-189 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 190-199 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 200-209 | 003 | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 210-219 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 220-229 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 230-239 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 240-249 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 250-259 | 003 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 260-269 | 004 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 270-279 | 002 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 280-289 | 004 | 007 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | 14 |
| 290-299 | 004 | 015 | 011 | 007 | | | | | | | | | | | | | | | | | | | | | | 37 |
| 300-309 | 005 | 025 | 008 | 004 | | | | | | | | | | | | | | | | | | | | | | 42 |
| 310-319 | 002 | 008 | 005 | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 320-329 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 330-339 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 340-349 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 350-359 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| | 99 | 124 | 72 | 42 | 22 | 9 | 9 | 6 | 3 | 5 | 4 | 10 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 410 |

NUMBER OF ZERO RATES 0

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J11 DEPTH 290 JOHNSTONE STRAIT 50 33.4 N 126 47.7 W LENGTH OF RECORD= 2 DAYS

START OF RECORD 7 MN 19 HR 5 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | | | 002 | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 10- 19 | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 20- 29 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 30- 39 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 40- 49 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 50- 59 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 60- 69 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 70- 79 | | | 001 | 001 | | | | | | | | 001 | | | | | | | | | | | | | | 3 |
| 80- 89 | | | 001 | 001 | 001 | 001 | 001 | 001 | | | | 001 | 002 | | | | | | | | | | | | | 9 |
| 90- 99 | | | | | 003 | 002 | 002 | 001 | 003 | 001 | 005 | 002 | 002 | | | | | | | | | | | | | 21 |
| 100-109 | | | 001 | | | 006 | 005 | 006 | 002 | 002 | 001 | | 002 | | 002 | | | | | | | | | | | 27 |
| 110-119 | | | 001 | 001 | | 004 | | 002 | 002 | | 001 | | 001 | 001 | | 001 | | | | | | | | | | 14 |
| 120-129 | | 002 | | 001 | | | | | 002 | | | 002 | 002 | | | | | | | | | | | | | 9 |
| 130-139 | | | | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 3 |
| 140-149 | | | | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 3 |
| 150-159 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 160-169 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 170-179 | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 180-189 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 190-199 | | | 001 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 200-209 | | 001 | | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 210-219 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 220-229 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 230-239 | | | 001 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 240-249 | | 002 | | | 001 | | | | | | | | | | | | | | | | | | | | | 3 |
| 250-259 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 260-269 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 270-279 | | | 001 | 001 | 002 | 002 | 011 | 006 | 001 | | | | | | | | | | | | | | | | | 24 |
| 280-289 | | | | 003 | 001 | 002 | 005 | 005 | 001 | | | | | | | | | | | | | | | | | 17 |
| 290-299 | | 002 | | | 001 | 002 | 003 | 001 | 003 | 002 | 001 | | | | | | | | | | | | | | | 15 |
| 300-309 | | | | | 001 | 001 | 002 | 004 | | | | | | | | | | | | | | | | | | 8 |
| 310-319 | | | 001 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 320-329 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 330-339 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 340-349 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 350-359 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| | 0 | 11 | 12 | 18 | 12 | 20 | 29 | 26 | 14 | 5 | 8 | 6 | 9 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 174 |

NUMBER OF ZERO RATES 0

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J11 DEPTH 450 JOHNSTONE STRAIT 50 33.4 N 126 47.7 W LENGTH OF RECORD= 4 DAYS

START OF RECORD 22 MN 17 HR 30 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 009 | 010 TO 019 | 020 TO 029 | 030 TO 039 | 040 TO 049 | 050 TO 059 | 060 TO 069 | 070 TO 079 | 080 TO 089 | 090 TO 099 | 100 TO 109 | 110 TO 119 | 120 TO 129 | 130 TO 139 | 140 TO 149 | 150 TO 159 | 160 TO 169 | 170 TO 179 | 180 TO 189 | 190 TO 199 | 200 TO 209 | 210 TO 219 | 220 TO 229 | 230 TO 239 | 240 TO 249 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 10- 19 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 20- 29 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 30- 39 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 40- 49 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 50- 59 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 60- 69 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 70- 79 | 004 | 006 | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 80- 89 | 005 | 005 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 14 |
| 90- 99 | 001 | 004 | 011 | 005 | 003 | 006 | | | | | | | | | | | | | | | | | | | | 30 |
| 100-109 | 002 | 003 | 008 | 010 | 014 | 016 | 007 | 003 | 001 | | | | | | | | | | | | | | | | | 64 |
| 110-119 | 003 | 001 | 001 | 004 | 003 | 001 | 002 | 002 | | 001 | | | | | | | | | | | | | | | | 18 |
| 120-129 | 002 | 001 | | | | 002 | | 002 | | 001 | 002 | 001 | | | | | | | | | | | | | | 11 |
| 130-139 | | 001 | | | 002 | | | | 001 | 001 | 002 | 002 | | 001 | | | | | | | | | | | | 10 |
| 140-149 | 002 | 002 | 001 | 002 | | 002 | 003 | | 002 | 004 | 004 | 001 | 002 | 004 | 003 | | | | | | | | | | | 32 |
| 150-159 | 003 | 001 | 002 | 002 | 003 | 005 | 003 | 004 | 003 | 002 | 002 | | 007 | 008 | 004 | | | | | | | | | | | 49 |
| 160-169 | | 001 | 003 | 002 | 003 | | 002 | | | | 001 | | 001 | 001 | 001 | 001 | | | | | | | | | | 16 |
| 170-179 | 003 | 003 | 001 | | | 002 | | | | | | | | | | | | | | | | | | | | 9 |
| 180-189 | 002 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 190-199 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 200-209 | 003 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 210-219 | 003 | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 220-229 | | 003 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 230-239 | 001 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 240-249 | 005 | | 001 | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 250-259 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 260-269 | 003 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 270-279 | 003 | 011 | 001 | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 280-289 | 003 | 005 | 003 | 005 | | | | | | | | | | | | | | | | | | | | | | 16 |
| 290-299 | 003 | 005 | 011 | 004 | | | | | | | | | | | | | | | | | | | | | | 23 |
| 300-309 | 003 | 001 | 005 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 310-319 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 320-329 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 330-339 | 004 | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 340-349 | 002 | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 350-359 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| | 91 | 77 | 56 | 35 | 28 | 34 | 17 | 11 | 7 | 9 | 11 | 4 | 10 | 14 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 413 |

NUMBER OF ZERO RATES 0

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J11 DEPTH 450 JOHNSTONE STRAIT 50 33.4 N 126 47.7 W LENGTH OF RECORD= 2 DAYS

START OF RECORD 7 MN 19 HR 5 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 009 | 010 TO 019 | 020 TO 029 | 030 TO 039 | 040 TO 049 | 050 TO 059 | 060 TO 069 | 070 TO 079 | 080 TO 089 | 090 TO 099 | 100 TO 109 | 110 TO 119 | 120 TO 129 | 130 TO 139 | 140 TO 149 | 150 TO 159 | 160 TO 169 | 170 TO 179 | 180 TO 189 | 190 TO 199 | 200 TO 209 | 210 TO 219 | 220 TO 229 | 230 TO 239 | 240 TO 249 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 10- 19 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 20- 29 | 002 | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 30- 39 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 40- 49 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 50- 59 | 001 | 002 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 7 |
| 60- 69 | 001 | | 003 | 004 | | | | | | | | | | | | | | | | | | | | | | 8 |
| 70- 79 | 001 | | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 4 |
| 80- 89 | | 001 | 001 | | 001 | | | | | | | | | | | | | | | | | | | | | 3 |
| 90- 99 | | 001 | | 001 | 001 | | 001 | | | | | | | | | | | | | | | | | | | 4 |
| 100-109 | 001 | | 005 | 002 | 006 | 004 | 002 | 002 | | | | | | | | | | | | | | | | | | 22 |
| 110-119 | | 003 | 006 | 003 | 002 | 006 | 005 | 004 | 001 | | | 001 | 001 | | | | | | | | | | | | | 32 |
| 120-129 | 001 | 003 | 003 | 002 | | 002 | 001 | | 002 | 004 | 002 | 002 | 002 | 002 | | | | | | | | | | | | 26 |
| 130-139 | | 004 | 001 | | | 001 | | | | | | 001 | | | 001 | | | | | | | | | | | 8 |
| 140-149 | 001 | 003 | | 001 | | | | | | 001 | | | | | | | | | | | | | | | | 6 |
| 150-159 | 001 | 004 | | | | | 001 | | | | 001 | 001 | | | | | | | | | | | | | | 8 |
| 160-169 | 002 | | | 001 | | 001 | | | | | | | | | | | | | | | | | | | | 4 |
| 170-179 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 180-189 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 190-199 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 200-209 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 210-219 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 220-229 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 230-239 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 240-249 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 250-259 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 260-269 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 270-279 | 001 | 002 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | 8 |
| 280-289 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 290-299 | | 001 | 003 | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 300-309 | 002 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 5 |
| 310-319 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 320-329 | | 003 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 330-339 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 340-349 | 002 | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 350-359 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| | 26 | 35 | 32 | 18 | 11 | 14 | 10 | 6 | 3 | 5 | 3 | 5 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 174 |

NUMBER OF ZERO RATES 0

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN 001 DEPTH 015 QUEEN CHARLOTTE ST. 50 51.3 N 127 20.0 W LENGTH OF RECORD= 34 DAYS

START OF RECORD 22 MN 13 HR 30 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 001 | 019 | 020 | 017 | 014 | 021 | 005 | 001 | | | | | | | | | | | | | | | | | | 98 |
| 10- 19 | | 014 | 023 | 029 | 019 | 012 | 006 | | | | | | | | | | | | | | | | | | | 103 |
| 20- 29 | 005 | 017 | 020 | 014 | 024 | 012 | 002 | | | | | | | | | | | | | | | | | | | 94 |
| 30- 39 | 003 | 018 | 020 | 009 | 011 | 012 | 002 | 001 | | | | | | | | | | | | | | | | | | 76 |
| 40- 49 | 003 | 015 | 011 | 005 | 010 | 025 | 003 | 002 | | | | | | | | | | | | | | | | | | 74 |
| 50- 59 | 008 | 016 | 015 | 004 | 006 | 005 | 009 | | | | | | | | | | | | | | | | | | | 63 |
| 60- 69 | 005 | 016 | 013 | 006 | 005 | 001 | 001 | | | | | | | | | | | | | | | | | | | 47 |
| 70- 79 | 005 | 012 | 027 | 009 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 56 |
| 80- 89 | 009 | 012 | 017 | 014 | 001 | 002 | | | | | | | | | | | | | | | | | | | | 55 |
| 90- 99 | 006 | 014 | 007 | 010 | 010 | 009 | | | | | | | | | | | | | | | | | | | | 56 |
| 100-109 | 005 | 005 | 011 | 010 | 008 | | | | | | | | | | | | | | | | | | | | | 39 |
| 110-119 | 006 | 010 | 016 | 015 | 005 | 001 | | | | | | | | | | | | | | | | | | | | 53 |
| 120-129 | 001 | 006 | 011 | 004 | 006 | 004 | | | | | | | | | | | | | | | | | | | | 32 |
| 130-139 | 001 | 006 | 007 | 006 | 003 | | | | | | | | | | | | | | | | | | | | | 23 |
| 140-149 | 001 | 008 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | 18 |
| 150-159 | 001 | 014 | 008 | | | | | | | | | | | | | | | | | | | | | | | 23 |
| 160-169 | 002 | 006 | 006 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | 18 |
| 170-179 | | 011 | 007 | 003 | | | | | | | | | | | | | | | | | | | | | | 21 |
| 180-189 | 001 | 011 | 008 | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 190-199 | 001 | 005 | 004 | 003 | | | | | | | | | | | | | | | | | | | | | | 13 |
| 200-209 | 001 | 013 | 006 | 003 | | | | | | | | | | | | | | | | | | | | | | 23 |
| 210-219 | 001 | 013 | 002 | 004 | 003 | | | | | | | | | | | | | | | | | | | | | 23 |
| 220-229 | 002 | 009 | 018 | 010 | 015 | 005 | 003 | | | | | | | | | | | | | | | | | | | 62 |
| 230-239 | 002 | 008 | 011 | 014 | 016 | 007 | 003 | | | | | | | | | | | | | | | | | | | 61 |
| 240-249 | 004 | 015 | 014 | 010 | 017 | 005 | 001 | 002 | | | | | | | | | | | | | | | | | | 68 |
| 250-259 | | 014 | 016 | 014 | 009 | 006 | 001 | 006 | 004 | | | | | | | | | | | | | | | | | 70 |
| 260-269 | 002 | 007 | 022 | 017 | 024 | 010 | 014 | 014 | 013 | 009 | 004 | | | | | | | | | | | | | | | 136 |
| 270-279 | 003 | 011 | 033 | 022 | 019 | 019 | 022 | 016 | 011 | 015 | 001 | | | | | | | | | | | | | | | 172 |
| 280-289 | 003 | 017 | 020 | 029 | 032 | 034 | 028 | 041 | 023 | 020 | 008 | | | | | | | | | | | | | | | 255 |
| 290-299 | 002 | 016 | 030 | 015 | 033 | 041 | 037 | 031 | 053 | 030 | 016 | 005 | 002 | | | | | | | | | | | | | 311 |
| 300-309 | 001 | 023 | 037 | 020 | 027 | 036 | 044 | 023 | 022 | 013 | 005 | 002 | | | | | | | | | | | | | | 253 |
| 310-319 | | 020 | 021 | 028 | 047 | 033 | 025 | 012 | 014 | 007 | 004 | 005 | | | | | | | | | | | | | | 216 |
| 320-329 | 003 | 026 | 025 | 039 | 024 | 028 | 020 | 008 | 032 | 019 | 003 | | | | | | | | | | | | | | | 227 |
| 330-339 | 002 | 012 | 028 | 026 | 014 | 018 | 018 | 017 | 010 | 008 | 001 | | | | | | | | | | | | | | | 154 |
| 340-349 | 002 | 009 | 025 | 026 | 015 | 017 | 013 | 008 | | 002 | | | | | | | | | | | | | | | | 119 |
| 350-359 | 006 | 021 | 024 | 019 | 018 | 016 | 007 | 003 | | | | | | | | | | | | | | | | | | 114 |
| | 98 | 469 | 592 | 457 | 440 | 380 | 264 | 185 | 182 | 123 | 42 | 12 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3246 |

NUMBER OF ZERO RATES 0

QUEEN CHARLOTTE STRAIT
PROGRESSIVE VECTOR DIAGRAM

△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL

| STN | DEPTH | AREA | DAY/YR | NO DAYS |
|---|---|---|---|---|
| Q01 | 015M | 8400 | 30 /77 | 34 |

SCALE 50 KM

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN Q01 DEPTH 015 QUEEN CHARLOTTE ST. 50 51.3 N 127 20.8 W LENGTH OF RECORD= 71 DAYS

START OF RECORD 7 MN 11 HR 5 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 000 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 008 | 028 | 032 | 024 | 003 | 003 | | | | | | | | | | | | | | | | | | | | 98 |
| 10- 19 | 002 | 020 | 033 | 020 | 009 | | | | | | | | | | | | | | | | | | | | | 84 |
| 20- 29 | 003 | 031 | 035 | 014 | 009 | | | | | | | | | | | | | | | | | | | | | 92 |
| 30- 39 | 002 | 026 | 036 | 013 | 003 | 001 | | | | | | | | | | | | | | | | | | | | 81 |
| 40- 49 | 010 | 030 | 046 | 018 | 010 | 007 | | | | | | | | | | | | | | | | | | | | 121 |
| 50- 59 | 007 | 022 | 039 | 018 | 008 | 004 | | | | | | | | | | | | | | | | | | | | 98 |
| 60- 69 | 003 | 029 | 041 | 032 | 015 | 003 | | | | | | | | | | | | | | | | | | | | 123 |
| 70- 79 | 005 | 019 | 038 | 025 | 009 | 002 | | | | | | | | | | | | | | | | | | | | 98 |
| 80- 89 | 002 | 024 | 030 | 031 | 015 | 002 | | | | | | | | | | | | | | | | | | | | 104 |
| 90- 99 | 006 | 030 | 043 | 031 | 018 | 013 | 002 | | | | | | | | | | | | | | | | | | | 143 |
| 100-109 | 010 | 032 | 055 | 040 | 031 | 014 | 004 | 006 | 002 | | | | | | | | | | | | | | | | | 194 |
| 110-119 | 007 | 027 | 056 | 038 | 031 | 028 | 019 | 007 | 007 | 009 | 002 | | | | | | | | | | | | | | | 231 |
| 120-129 | 003 | 037 | 038 | 027 | 023 | 028 | 024 | 011 | 010 | 014 | 003 | | | | | | | | | | | | | | | 218 |
| 130-139 | 004 | 040 | 057 | 034 | 020 | 017 | 021 | 008 | 004 | 003 | | | | | | | | | | | | | | | | 208 |
| 140-149 | 006 | 036 | 047 | 029 | 030 | 022 | 014 | 002 | 001 | | | | | | | | | | | | | | | | | 187 |
| 150-159 | 008 | 027 | 045 | 022 | 016 | 002 | 004 | 001 | | | | | | | | | | | | | | | | | | 125 |
| 160-169 | 004 | 039 | 024 | 015 | 008 | 005 | | | | | | | | | | | | | | | | | | | | 95 |
| 170-179 | 007 | 035 | 024 | 015 | 002 | 004 | | | | | | | | | | | | | | | | | | | | 87 |
| 180-189 | 009 | 035 | 045 | 008 | 005 | 009 | | | | | | | | | | | | | | | | | | | | 111 |
| 190-199 | 005 | 027 | 021 | 006 | 003 | 004 | 002 | | | | | | | | | | | | | | | | | | | 68 |
| 200-209 | 006 | 026 | 024 | 017 | 008 | 002 | | | | | | | | | | | | | | | | | | | | 83 |
| 210-219 | 005 | 023 | 035 | 017 | 007 | 002 | | | | | | | | | | | | | | | | | | | | 89 |
| 220-229 | 006 | 018 | 025 | 016 | 010, | 004 | 003 | | | | | | | | | | | | | | | | | | | 82 |
| 230-239 | 005 | 016 | 046 | 031 | 015 | 004 | 001 | | | | | | | | | | | | | | | | | | | 118 |
| 240-249 | 005 | 021 | 038 | 035 | 021 | 012 | 004 | 002 | | | | | | | | | | | | | | | | | | 138 |
| 250-259 | 008 | 021 | 028 | 041 | 031 | 019 | 013 | 005 | 005 | | | | | | | | | | | | | | | | | 171 |
| 260-269 | 002 | 025 | 029 | 038 | 043 | 030 | 032 | 024 | 009 | 005 | 004 | 002 | 001 | | | | | | | | | | | | | 244 |
| 270-279 | 005 | 033 | 033 | 053 | 064 | 081 | 065 | 046 | 039 | 013 | 015 | 007 | 004 | | | | | | | | | | | | | 458 |
| 280-289 | 001 | 020 | 042 | 054 | 100 | 099 | 090 | 080 | 048 | 034 | 022 | 021 | 007 | 009 | 004 | | | | | | | | | | | 631 |
| 290-299 | 002 | 033 | 052 | 066 | 092 | 129 | 091 | 081 | 081 | 047 | 021 | 017 | 013 | 002 | | | | | | | | | | | | 727 |
| 300-309 | 008 | 033 | 061 | 056 | 070 | 073 | 065 | 057 | 048 | 017 | 012 | 004 | 002 | | 002 | | | | | | | | | | | 508 |
| 310-319 | 008 | 019 | 048 | 048 | 047 | 037 | 032 | 024 | 017 | 016 | 010 | 004 | | | | | | | | | | | | | | 310 |
| 320-329 | 006 | 032 | 053 | 051 | 043 | 038 | 024 | 008 | 007 | 008 | 002 | 002 | | | | | | | | | | | | | | 274 |
| 330-339 | 004 | 019 | 046 | 050 | 018 | 023 | 007 | 003 | 001 | | | | | | | | | | | | | | | | | 171 |
| 340-349 | 003 | 022 | 026 | 061 | 013 | 006 | 004 | | | | | | | | | | | | | | | | | | | 135 |
| 350-359 | 005 | 030 | 041 | 024 | 008 | 006 | | | | | | | | | | | | | | | | | | | | 114 |
| | 195 | 978 | 1414 | 1118 | 858 | 733 | 521 | 365 | 279 | 166 | 91 | 57 | 27 | 11 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6819 |

NUMBER OF ZERO RATES 0

QUEEN CHARLOTTE STRAIT
PROGRESSIVE VECTOR DIAGRAM

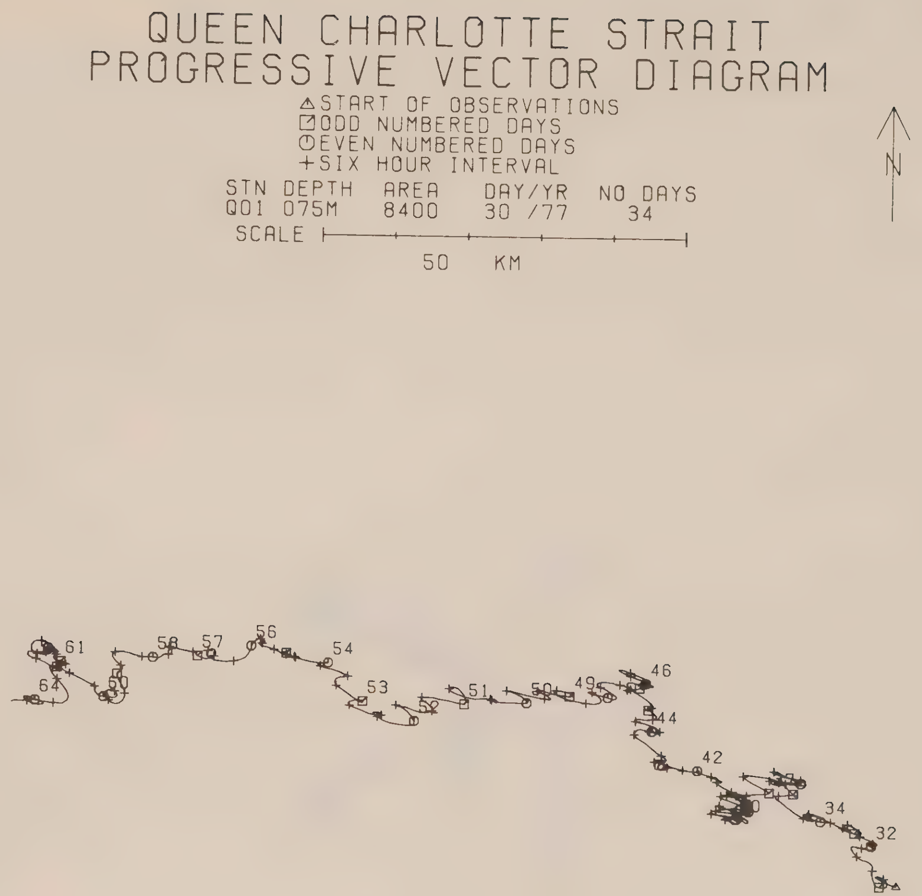
FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN 001 DEPTH 075 QUEEN CHARLOTTE ST. 50 51.3 N 127 20.0 W LENGTH OF RECORD= 34 DAYS
START OF RECORD 37 MN 13 HR 30 DY 01 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 006 | 018 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | | 34 |
| 10- 19 | 006 | 016 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | 30 |
| 20- 29 | 007 | 018 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | 31 |
| 30- 39 | 006 | 022 | 007 | | | | | | | | | | | | | | | | | | | | | | | 35 |
| 40- 49 | 007 | 018 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | 32 |
| 50- 59 | 004 | 027 | 009 | | | | | | | | | | | | | | | | | | | | | | | 40 |
| 60- 69 | 009 | 018 | 018 | 001 | | | | | | | | | | | | | | | | | | | | | | 46 |
| 70- 79 | 012 | 028 | 027 | 012 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 81 |
| 80- 89 | 008 | 051 | 055 | 012 | 011 | 003 | 002 | 002 | | | | | | | | | | | | | | | | | | 144 |
| 90- 99 | 002 | 042 | 041 | 034 | 017 | 004 | | | | | | | | | | | | | | | | | | | | 140 |
| 100-109 | 002 | 032 | 062 | 045 | 037 | 021 | 005 | | | | | | | | | | | | | | | | | | | 204 |
| 110-119 | 004 | 021 | 039 | 027 | 023 | 022 | 014 | | | | | | | | | | | | | | | | | | | 149 |
| 120-129 | 006 | 019 | 039 | 025 | 020 | 008 | 004 | | | | | | | | | | | | | | | | | | | 122 |
| 130-139 | 003 | 016 | 028 | 011 | 003 | 008 | 001 | 001 | | | | | | | | | | | | | | | | | | 71 |
| 140-149 | 001 | 018 | 021 | [illegible] | 005 | 004 | 003 | 001 | | | | | | | | | | | | | | | | | | 62 |
| 150-159 | 006 | 016 | 014 | [illegible] | 004 | 001 | 001 | | | | | | | | | | | | | | | | | | | 51 |
| 160-169 | 002 | 010 | 008 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | 26 |
| 170-179 | 002 | 013 | 013 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 31 |
| 180-189 | 002 | 010 | 013 | 003 | | | | | | | | | | | | | | | | | | | | | | 28 |
| 190-199 | 002 | 009 | 014 | 002 | | | | | | | | | | | | | | | | | | | | | | 27 |
| 200-209 | 004 | 017 | 011 | 003 | | | | | | | | | | | | | | | | | | | | | | 35 |
| 210-219 | 001 | 018 | 014 | 005 | | | | | | | | | | | | | | | | | | | | | | 38 |
| 220-229 | 003 | 021 | 007 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | 39 |
| 230-239 | 002 | 023 | 016 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | 47 |
| 240-249 | 005 | 016 | 024 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | 55 |
| 250-259 | 003 | 017 | 032 | 014 | 008 | 004 | | | | | | | | | | | | | | | | | | | | 78 |
| 260-269 | 003 | 032 | 045 | 020 | 025 | 014 | 006 | 005 | 002 | | | | | | | | | | | | | | | | | 152 |
| 270-279 | 004 | 043 | 059 | 047 | 044 | 061 | 026 | 025 | 002 | | | | | | | | | | | | | | | | | 311 |
| 280-289 | 001 | 042 | 089 | 055 | [illegible] | 043 | 039 | 011 | 011 | | | | | | | | | | | | | | | | | 344 |
| 290-299 | 008 | 030 | 062 | 041 | [illegible] | 058 | 027 | 010 | | | | | | | | | | | | | | | | | | 280 |
| 300-309 | 004 | 035 | 049 | [illegible] | [illegible] | 024 | 009 | 003 | 002 | | | | | | | | | | | | | | | | | 196 |
| 310-319 | 003 | 023 | 045 | 019 | [illegible] | [illegible] | 002 | 003 | | | | | | | | | | | | | | | | | | 110 |
| 320-329 | 002 | 021 | 029 | [illegible] | [illegible] | 001 | | | | | | | | | | | | | | | | | | | | 65 |
| 330-339 | 007 | 024 | 015 | | | 001 | | | | | | | | | | | | | | | | | | | | 47 |
| 340-349 | 005 | 015 | 007 | 007 | | | | | | | | | | | | | | | | | | | | | | 34 |
| 350-359 | 007 | 014 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | 30 |
| | | 813 | | 493 | | 279 | | 61 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 3245 |
| | 159 | | 944 | | 340 | | 139 | | 17 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

NUMBER OF ZERO RATES 2


QUEEN CHARLOTTE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
Q01 075M 8400 30 /77 34
SCALE
50 KM
N
61
58
57
56
54
64
53
51
50
49
46
44
42
34
32

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN 001 DEPTH 075 QUEEN CHARLOTTE ST. 50 51.3 N 127 20.0 W LENGTH OF RECORD= 71 DAYS

START OF RECORD 07 MN 11 HR 05 DY 03 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 010 | 028 | 019 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 60 |
| 10- 19 | 010 | 023 | 013 | 004 | | | | | | | | | | | | | | | | | | | | | | 50 |
| 20- 29 | 012 | 035 | 016 | 003 | | | | | | | | | | | | | | | | | | | | | | 66 |
| 30- 39 | 010 | 026 | 014 | 002 | | | | | | | | | | | | | | | | | | | | | | 52 |
| 40- 49 | 009 | 030 | 015 | 006 | | | | | | | | | | | | | | | | | | | | | | 60 |
| 50- 59 | 010 | 034 | 015 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | 67 |
| 60- 69 | 013 | 036 | 023 | 015 | 002 | | | | | | | | | | | | | | | | | | | | | 89 |
| 70- 79 | 011 | 060 | 046 | 044 | 007 | 001 | | | | | | | | | | | | | | | | | | | | 169 |
| 80- 89 | 006 | 071 | 085 | 064 | 036 | 012 | 001 | | | | | | | | | | | | | | | | | | | 275 |
| 90- 99 | 014 | 083 | 128 | 100 | 076 | 048 | 003 | | | | | | | | | | | | | | | | | | | 452 |
| 100-109 | 013 | 055 | 101 | 122 | 092 | 080 | 014 | 004 | 001 | | | | | | | | | | | | | | | | | 482 |
| 110-119 | 020 | 052 | 098 | 082 | 078 | 041 | 040 | 013 | 001 | 002 | | | | | | | | | | | | | | | | 427 |
| 120-129 | 013 | 046 | 077 | 068 | 041 | 045 | 011 | 005 | | | | | | | | | | | | | | | | | | 306 |
| 130-139 | 015 | 039 | 064 | 042 | 034 | 016 | 010 | | | | | | | | | | | | | | | | | | | 220 |
| 140-149 | 014 | 052 | 071 | 026 | 016 | 005 | 003 | | | | | | | | | | | | | | | | | | | 187 |
| 150-159 | 015 | 048 | 034 | 021 | 013 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | 134 |
| 160-169 | 014 | 038 | 030 | 014 | 003 | 002 | 002 | | | | | | | | | | | | | | | | | | | 103 |
| 170-179 | 012 | 047 | 031 | 016 | 004 | 001 | | | | | | | | | | | | | | | | | | | | 111 |
| 180-189 | 009 | 051 | 033 | 014 | 001 | 002 | | | | | | | | | | | | | | | | | | | | 110 |
| 190-199 | 010 | 045 | 032 | 011 | 004 | | | | | | | | | | | | | | | | | | | | | 103 |
| 200-209 | 011 | 035 | 018 | 013 | 004 | 001 | | | | | | | | | | | | | | | | | | | | 82 |
| 210-219 | 010 | 050 | 022 | 008 | 002 | 002 | | | | | | | | | | | | | | | | | | | | 94 |
| 220-229 | 011 | 044 | 028 | 008 | 004 | | | | | | | | | | | | | | | | | | | | | 95 |
| 230-239 | 019 | 036 | 046 | 016 | 008 | 004 | 001 | | | | | | | | | | | | | | | | | | | 130 |
| 240-249 | 016 | 059 | 051 | 015 | 012 | 010 | 003 | | | | | | | | | | | | | | | | | | | 176 |
| 250-259 | 011 | 065 | 062 | 034 | 022 | 009 | 009 | | | | | | | | | | | | | | | | | | | 212 |
| 260-269 | 016 | 047 | 086 | 069 | 051 | 020 | 011 | 003 | 001 | 002 | | | | | | | | | | | | | | | | 306 |
| 270-279 | 012 | 051 | 089 | 073 | 074 | 061 | 024 | 012 | 008 | 006 | | | | | | | | | | | | | | | | 410 |
| 280-289 | 014 | 048 | 103 | 103 | 094 | 097 | 056 | 027 | 013 | 012 | 001 | | | | | | | | | | | | | | | 568 |
| 290-299 | 010 | 054 | 079 | 071 | 081 | 043 | 037 | 025 | 012 | | | | | | | | | | | | | | | | | 412 |
| 300-309 | 012 | 053 | 051 | 062 | 047 | 021 | 016 | 011 | 004 | | | | | | | | | | | | | | | | | 277 |
| 310-319 | 009 | 045 | 053 | 043 | 026 | 010 | 006 | 002 | | | | | | | | | | | | | | | | | | 195 |
| 320-329 | 009 | 040 | 051 | 027 | 008 | 004 | | | | | | | | | | | | | | | | | | | | 139 |
| 330-339 | 005 | 035 | 025 | 008 | | | | | | | | | | | | | | | | | | | | | | 73 |
| 340-349 | 005 | 028 | 019 | 005 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 60 |
| 350-359 | 019 | 014 | 021 | 008 | | | | | | | | | | | | | | | | | | | | | | 62 |
| | | 1515 | | 1226 | | 537 | | 103 | | 22 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 6814 |
| | 419 | | 1759 | | 844 | | 248 | | 40 | | 1 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

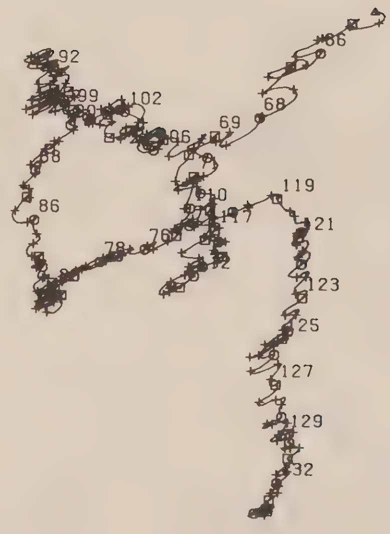
NUMBER OF ZERO RATES 6

QUEEN CHARLOTTE STRAIT
PROGRESSIVE VECTOR DIAGRAM

△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL

| STN | DEPTH | AREA | DAY/YR | NO DAYS |
|---|---|---|---|---|
| Q01 | 075M | 8400 | 64 /77 | 71 |

SCALE 50 KM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN 002 DEPTH 025 QUEEN CHARLOTTE ST. 50 46.2 N 127 21.9 W LENGTH OF RECORD= 34 DAYS

START OF RECORD 22 MN 10 HR 30 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 005 | 026 | 032 | 012 | | | | | | | | | | | | | | | | | | | | | | 75 |
| 10- 19 | 007 | 030 | 022 | 011 | 005 | | | | | | | | | | | | | | | | | | | | | 75 |
| 20- 29 | 013 | 024 | 022 | 011 | 001 | | | | | | | | | | | | | | | | | | | | | 71 |
| 30- 39 | 008 | 026 | 019 | 009 | | | | | | | | | | | | | | | | | | | | | | 62 |
| 40- 49 | 008 | 022 | 014 | 004 | | | | | | | | | | | | | | | | | | | | | | 48 |
| 50- 59 | 002 | 016 | 022 | 003 | | | | | | | | | | | | | | | | | | | | | | 43 |
| 60- 69 | 006 | 022 | 011 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | 46 |
| 70- 79 | 006 | 021 | 020 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | 51 |
| 80- 89 | 012 | 021 | 027 | 009 | | | | | | | | | | | | | | | | | | | | | | 69 |
| 90- 99 | 004 | 031 | 021 | 013 | 001 | | | | | | | | | | | | | | | | | | | | | 70 |
| 100-109 | 004 | 026 | 033 | 032 | 005 | | | | | | | | | | | | | | | | | | | | | 100 |
| 110-119 | 005 | 020 | 048 | 050 | 027 | 004 | | | | | | | | | | | | | | | | | | | | 154 |
| 120-129 | 003 | 031 | 030 | 053 | 040 | 015 | 001 | | | | | | | | | | | | | | | | | | | 173 |
| 130-139 | 006 | 026 | 029 | 042 | 049 | 024 | 001 | 001 | | | | | | | | | | | | | | | | | | 178 |
| 140-149 | 006 | 037 | 029 | 031 | 031 | 012 | 009 | 009 | 002 | | | | | | | | | | | | | | | | | 166 |
| 150-159 | 004 | 038 | 040 | 031 | 017 | 009 | 002 | | | | | | | | | | | | | | | | | | | 141 |
| 160-169 | 008 | 031 | 015 | 008 | 013 | 004 | | | | | | | | | | | | | | | | | | | | 79 |
| 170-179 | 003 | 023 | 014 | 014 | 004 | 002 | | | | | | | | | | | | | | | | | | | | 60 |
| 180-189 | 005 | 019 | 012 | 009 | 002 | | | | | | | | | | | | | | | | | | | | | 47 |
| 190-199 | 015 | 019 | 011 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | 52 |
| 200-209 | 007 | 018 | 006 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | 37 |
| 210-219 | 007 | 018 | 006 | 002 | 003 | | | | | | | | | | | | | | | | | | | | | 36 |
| 220-229 | 008 | 010 | 015 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 36 |
| 230-239 | 009 | 009 | 013 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | 36 |
| 240-249 | 012 | 008 | 008 | 007 | 003 | | | | | | | | | | | | | | | | | | | | | 38 |
| 250-259 | 007 | 016 | 007 | 008 | | 002 | | | | | | | | | | | | | | | | | | | | 40 |
| 260-269 | 005 | 021 | 012 | 003 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 43 |
| 270-279 | 011 | 028 | 022 | 014 | 003 | | | | | | | | | | | | | | | | | | | | | 78 |
| 280-289 | 012 | 032 | 020 | 015 | 018 | | | | | | | | | | | | | | | | | | | | | 97 |
| 290-299 | 008 | 032 | 038 | 028 | 016 | 003 | | | | | | | | | | | | | | | | | | | | 125 |
| 300-309 | 008 | 031 | 032 | 035 | 028 | 005 | 003 | 002 | 001 | | | | | | | | | | | | | | | | | 145 |
| 310-319 | 009 | 021 | 043 | 052 | 037 | 013 | 009 | 005 | | | | | | | | | | | | | | | | | | 189 |
| 320-329 | 009 | 031 | 040 | 036 | 031 | 022 | 010 | 003 | 001 | | | | | | | | | | | | | | | | | 183 |
| 330-339 | 011 | 038 | 042 | 042 | 024 | 014 | | 004 | 001 | | | | | | | | | | | | | | | | | 176 |
| 340-349 | 008 | 020 | 050 | 032 | 018 | 005 | 003 | 002 | 001 | | | | | | | | | | | | | | | | | 139 |
| 350-359 | 010 | 034 | 025 | 015 | 015 | | 002 | 002 | | | | | | | | | | | | | | | | | | 103 |
| | 271 | 876 | 850 | 654 | 401 | 135 | 40 | 28 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3261 |

NUMBER OF ZERO RATES 6

QUEEN CHARLOTTE STRAIT
PROGRESSIVE VECTOR DIAGRAM

△ START OF OBSERVATIONS
◻ ODD NUMBERED DAYS
○ EVEN NUMBERED DAYS
\+ SIX HOUR INTERVAL

| STN | DEPTH | AREA | DAY/YR | NO DAYS |
|---|---|---|---|---|
| Q02 | 025M | 8400 | 30 /77 | 34 |

SCALE 25 KM

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN 003 DEPTH 040 QUEEN CHARLOTTE ST. 50 46.2 N 127 21.9 W LENGTH OF RECORD= 71 DAYS

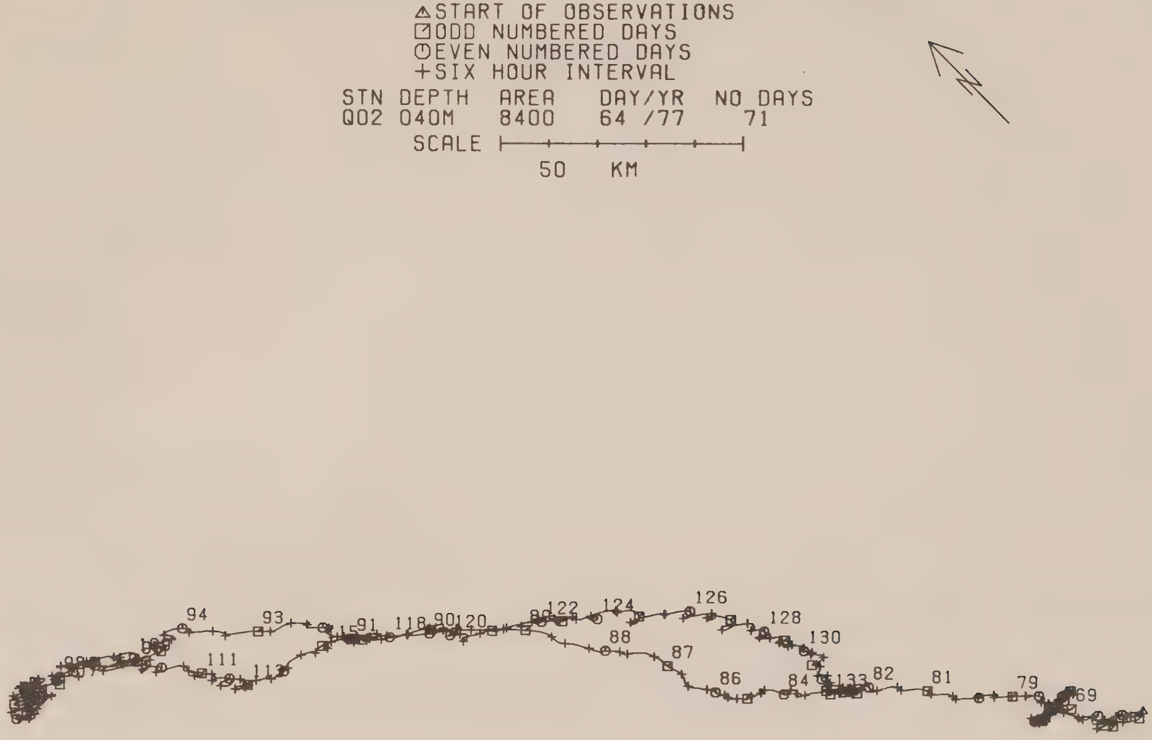
START OF RECORD 37 MN 13 HR 5 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 017 | 027 | 018 | 007 | | | | | | | | | | | | | | | | | | | | | | 69 |
| 10- 19 | 025 | 019 | 019 | 002 | | | | | | | | | | | | | | | | | | | | | | 65 |
| 20- 29 | 017 | 015 | 009 | | | | | | | | | | | | | | | | | | | | | | | 41 |
| 30- 39 | 020 | 023 | 010 | | | | | | | | | | | | | | | | | | | | | | | 53 |
| 40- 49 | 016 | 020 | 004 | | | | | | | | | | | | | | | | | | | | | | | 40 |
| 50- 59 | 022 | 021 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | 50 |
| 60- 69 | 019 | 039 | 003 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | 64 |
| 70- 79 | 017 | 031 | 017 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | 70 |
| 80- 89 | 021 | 047 | 031 | 007 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 109 |
| 90- 99 | 016 | 040 | 047 | 036 | 011 | 001 | 001 | | | | | | | | | | | | | | | | | | | 152 |
| 100-109 | 017 | 040 | 060 | 074 | 038 | 025 | 008 | 002 | | | | | | | | | | | | | | | | | | 264 |
| 110-119 | 012 | 052 | 069 | 094 | 081 | 060 | 047 | 030 | 008 | | | | | | | | | | | | | | | | | 453 |
| 120-129 | 012 | 065 | 096 | 138 | 104 | 083 | 045 | 033 | 012 | 006 | | | | | | | | | | | | | | | | 594 |
| 130-139 | 012 | 055 | 113 | 111 | 066 | 048 | 019 | 009 | 001 | | | | | | | | | | | | | | | | | 434 |
| 140-149 | 029 | 061 | 079 | 056 | 030 | 018 | 005 | | | | | | | | | | | | | | | | | | | 278 |
| 150-159 | 012 | 052 | 052 | 025 | 013 | 009 | 001 | | | | | | | | | | | | | | | | | | | 164 |
| 160-169 | 014 | 037 | 027 | 012 | 003 | 004 | | | | | | | | | | | | | | | | | | | | 97 |
| 170-179 | 018 | 029 | 014 | 008 | 004 | 002 | | | | | | | | | | | | | | | | | | | | 75 |
| 180-189 | 022 | 028 | 010 | 010 | 002 | | | | | | | | | | | | | | | | | | | | | 72 |
| 190-199 | 021 | 025 | 012 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | 64 |
| 200-209 | 012 | 033 | 010 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | 64 |
| 210-219 | 016 | 023 | 012 | 009 | | | | | | | | | | | | | | | | | | | | | | 60 |
| 220-229 | 020 | 028 | 010 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | 64 |
| 230-239 | 018 | 032 | 015 | 009 | | | | | | | | | | | | | | | | | | | | | | 74 |
| 240-249 | 017 | 039 | 024 | 009 | | | | | | | | | | | | | | | | | | | | | | 89 |
| 250-259 | 024 | 037 | 024 | 010 | 003 | | | | | | | | | | | | | | | | | | | | | 98 |
| 260-269 | 017 | 046 | 030 | 018 | 011 | | | | | | | | | | | | | | | | | | | | | 122 |
| 270-279 | 029 | 057 | 039 | 024 | 026 | 005 | 001 | | | | | | | | | | | | | | | | | | | 181 |
| 280-289 | 024 | 052 | 050 | 052 | 035 | 021 | 007 | 002 | | | | | | | | | | | | | | | | | | 243 |
| 290-299 | 017 | 063 | 096 | 064 | 078 | 064 | 014 | 011 | 005 | 002 | | | | | | | | | | | | | | | | 414 |
| 300-309 | 026 | 077 | 104 | 117 | 122 | 062 | 029 | 029 | 014 | 009 | | | | | | | | | | | | | | | | 589 |
| 310-319 | 024 | 072 | 109 | 143 | 076 | 103 | 051 | 023 | 008 | 004 | | | | | | | | | | | | | | | | 613 |
| 320-329 | 024 | 073 | 094 | 100 | 052 | 028 | 012 | 001 | | | | | | | | | | | | | | | | | | 384 |
| 330-339 | 015 | 055 | 077 | 056 | 032 | 011 | 006 | | | | | | | | | | | | | | | | | | | 252 |
| 340-349 | 018 | 062 | 052 | 033 | 009 | | | | | | | | | | | | | | | | | | | | | 174 |
| 350-359 | 017 | 043 | 032 | 014 | | | | | | | | | | | | | | | | | | | | | | 106 |
| | 677 | 1518 | 1474 | 1262 | 804 | 545 | 246 | 140 | 48 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6735 |

NUMBER OF ZERO RATES 79

# QUEEN CHARLOTTE STRAIT
# PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN 002 DEPTH 085 QUEEN CHARLOTTE ST 50 46.2 N 127 21.9 W LENGTH OF RECORD= 34 DAYS

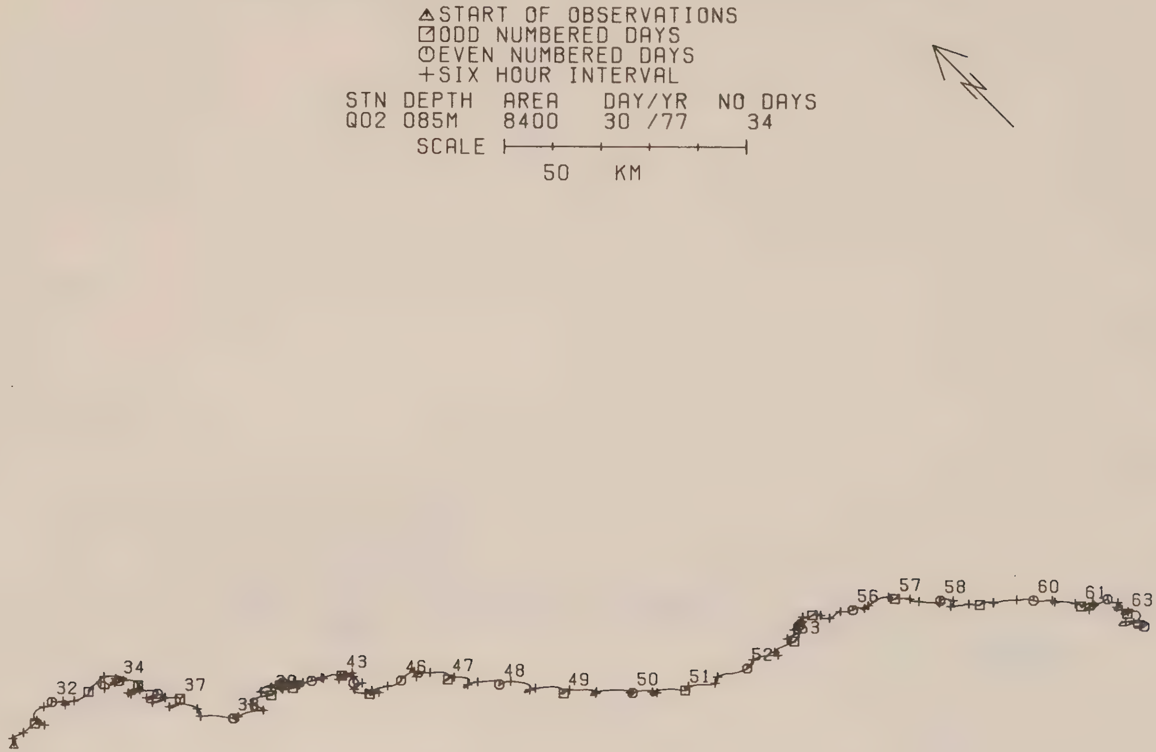
START OF RECORD 22 MN 10 HR 30 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 006 | 020 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | 31 |
| 10- 19 | 005 | 026 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 34 |
| 20- 29 | 013 | 021 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 38 |
| 30- 39 | 008 | 016 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | 29 |
| 40- 49 | 009 | 019 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | | 34 |
| 50- 59 | 017 | 021 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | | 48 |
| 60- 69 | 009 | 023 | 015 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | 53 |
| 70- 79 | 005 | 021 | 015 | 002 | 005 | | | | | | | | | | | | | | | | | | | | | 48 |
| 80- 89 | 007 | 033 | 022 | 006 | 005 | 001 | | | | | | | | | | | | | | | | | | | | 74 |
| 90- 99 | 006 | 044 | 030 | 022 | 022 | 009 | | | | | | | | | | | | | | | | | | | | 133 |
| 100-109 | 008 | 030 | 058 | 037 | 024 | 017 | 007 | | | | | | | | | | | | | | | | | | | 181 |
| 110-119 | 010 | 029 | 060 | 049 | 062 | 052 | 029 | 006 | | | | | | | | | | | | | | | | | | 297 |
| 120-129 | 004 | 042 | 059 | 090 | 067 | 058 | 042 | 026 | 018 | 005 | | | | | | | | | | | | | | | | 411 |
| 130-139 | 010 | 032 | 075 | 072 | 065 | 034 | 033 | 036 | 016 | 004 | | | | | | | | | | | | | | | | 377 |
| 140-149 | 009 | 022 | 058 | 049 | 034 | 022 | 017 | 014 | 004 | | | | | | | | | | | | | | | | | 229 |
| 150-159 | 011 | 026 | 026 | 017 | 013 | 009 | 001 | | | | | | | | | | | | | | | | | | | 103 |
| 160-169 | 003 | 018 | 014 | 010 | 004 | 002 | | | | | | | | | | | | | | | | | | | | 51 |
| 170-179 | 005 | 019 | 015 | 006 | 002 | | | | | | | | | | | | | | | | | | | | | 47 |
| 180-189 | 009 | 021 | 014 | 006 | | | | | | | | | | | | | | | | | | | | | | 50 |
| 190-199 | 004 | 019 | 012 | 004 | | | | | | | | | | | | | | | | | | | | | | 39 |
| 200-209 | 009 | 023 | 012 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | 49 |
| 210-219 | 010 | 013 | 010 | 004 | | | | | | | | | | | | | | | | | | | | | | 37 |
| 220-229 | 012 | 016 | 001 | 006 | 004 | | | | | | | | | | | | | | | | | | | | | 39 |
| 230-239 | 010 | 012 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | 29 |
| 240-249 | 014 | 023 | 009 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | 51 |
| 250-259 | 009 | 015 | 009 | 007 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 43 |
| 260-269 | 011 | 015 | 020 | 010 | 001 | 002 | | | | | | | | | | | | | | | | | | | | 59 |
| 270-279 | 006 | 030 | 018 | 011 | 007 | 002 | 001 | | | | | | | | | | | | | | | | | | | 75 |
| 280-289 | 009 | 017 | 036 | 026 | 007 | 005 | 001 | | | | | | | | | | | | | | | | | | | 101 |
| 290-299 | 008 | 018 | 021 | 031 | 014 | 006 | 002 | | | | | | | | | | | | | | | | | | | 100 |
| 300-309 | 006 | 020 | 031 | 021 | 010 | 002 | | | | | | | | | | | | | | | | | | | | 90 |
| 310-319 | 006 | 027 | 036 | 015 | 002 | 002 | | | | | | | | | | | | | | | | | | | | 88 |
| 320-329 | 001 | 020 | 019 | 009 | 005 | | | | | | | | | | | | | | | | | | | | | 54 |
| 330-339 | 008 | 024 | 013 | 016 | 002 | | | | | | | | | | | | | | | | | | | | | 63 |
| 340-349 | 007 | 019 | 010 | 008 | 003 | | | | | | | | | | | | | | | | | | | | | 47 |
| 350-359 | 007 | 015 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | | 32 |
| | 291 | 809 | 754 | 559 | 365 | 224 | 133 | 82 | 38 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3264 |

NUMBER OF ZERO RATES 3

# QUEEN CHARLOTTE STRAIT
# PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

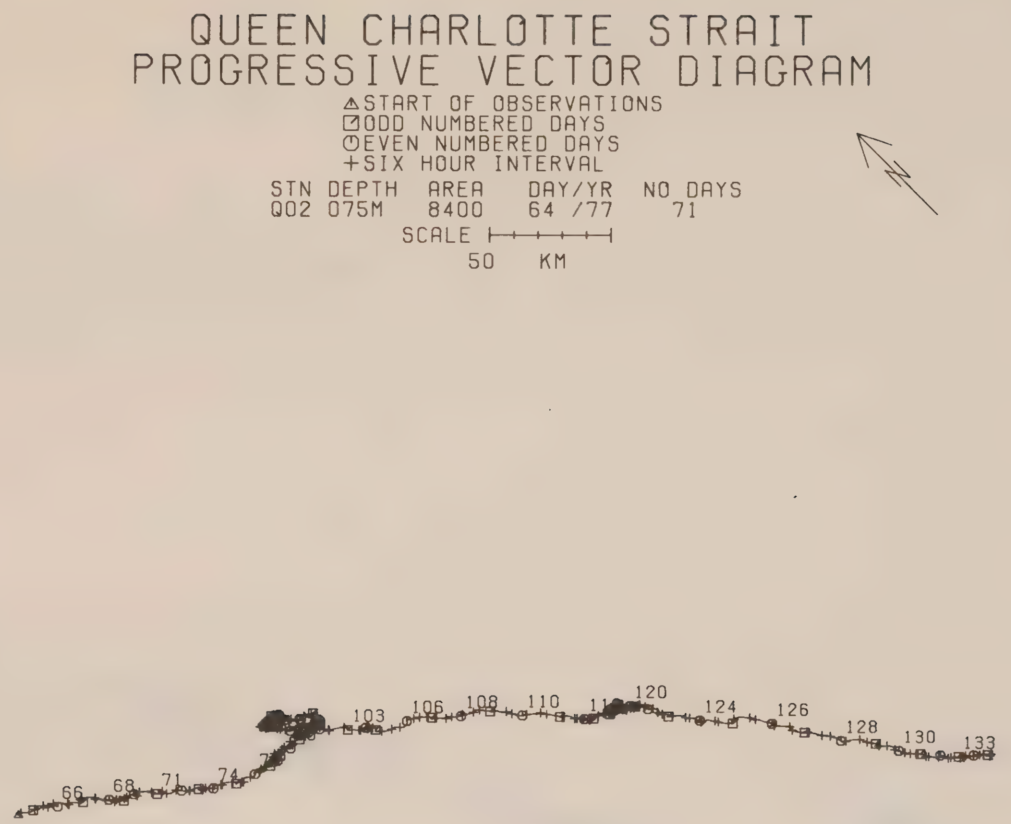
STN 002 DEPTH 075 QUEEN CHAR ST TIME? 50 46.2 N 127 21.9 W LENGTH OF RECORD= 71 DAYS

START OF RECORD 37 MN 13 HR 5 DY 3 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 015 | 054 | 016 | | | | | | | | | | | | | | | | | | | | | | | 85 |
| 10- 19 | 023 | 054 | 010 | | | | | | | | | | | | | | | | | | | | | | | 87 |
| 20- 29 | 029 | 049 | 010 | | | | | | | | | | | | | | | | | | | | | | | 88 |
| 30- 39 | 033 | 048 | 003 | 008 | | | | | | | | | | | | | | | | | | | | | | 92 |
| 40- 49 | 020 | 041 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | 69 |
| 50- 59 | 030 | 033 | 003 | | | | | | | | | | | | | | | | | | | | | | | 66 |
| 60- 69 | 027 | 048 | 009 | 001 | | | | | | | | | | | | | | | | | | | | | | 85 |
| 70- 79 | 027 | 033 | 013 | 006 | | | | | | | | | | | | | | | | | | | | | | 79 |
| 80- 89 | 029 | 042 | 026 | 008 | 003 | | | | | | | | | | | | | | | | | | | | | 108 |
| 90- 99 | 020 | 060 | 050 | 017 | 008 | 004 | | | | | | | | | | | | | | | | | | | | 159 |
| 100-109 | 023 | 063 | 072 | 040 | 021 | 010 | 003 | | | | | | | | | | | | | | | | | | | 232 |
| 110-119 | 016 | 075 | 073 | 116 | 076 | 044 | 028 | 009 | 005 | 003 | | | | | | | | | | | | | | | | 445 |
| 120-129 | 024 | 087 | 142 | 150 | 136 | 108 | 047 | 032 | 008 | 002 | | | | | | | | | | | | | | | | 736 |
| 130-139 | 018 | 101 | 174 | 163 | 119 | 107 | 053 | 033 | 019 | 003 | | | | | | | | | | | | | | | | 790 |
| 140-149 | 026 | 121 | 157 | 165 | 081 | 062 | 031 | 031 | 017 | 001 | | | | | | | | | | | | | | | | 692 |
| 150-159 | 024 | 105 | 121 | 076 | 024 | 025 | 014 | 009 | 009 | | | | | | | | | | | | | | | | | 407 |
| 160-169 | 024 | 089 | 054 | 024 | 012 | 007 | | | | | | | | | | | | | | | | | | | | 210 |
| 170-179 | 027 | 069 | 020 | 018 | 007 | 001 | | | | | | | | | | | | | | | | | | | | 142 |
| 180-189 | 019 | 056 | 023 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | 106 |
| 190-199 | 022 | 036 | 015 | | | | | | | | | | | | | | | | | | | | | | | 73 |
| 200-209 | 031 | 046 | 008 | | | | | | | | | | | | | | | | | | | | | | | 85 |
| 210-219 | 021 | 025 | 010 | 001 | | | | | | | | | | | | | | | | | | | | | | 57 |
| 220-229 | 025 | 029 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | 61 |
| 230-239 | 019 | 030 | 009 | | | | | | | | | | | | | | | | | | | | | | | 58 |
| 240-249 | 011 | 033 | 001 | | | | | | | | | | | | | | | | | | | | | | | 45 |
| 250-259 | 021 | 026 | 009 | | | | | | | | | | | | | | | | | | | | | | | 56 |
| 260-269 | 027 | 040 | 013 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 82 |
| 270-279 | 023 | 035 | 030 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | 94 |
| 280-289 | 016 | 043 | 036 | 011 | 005 | | | | | | | | | | | | | | | | | | | | | 111 |
| 290-299 | 019 | 061 | 047 | 036 | 018 | 005 | | | | | | | | | | | | | | | | | | | | 186 |
| 300-309 | 015 | 069 | 067 | 045 | 040 | 002 | | | | | | | | | | | | | | | | | | | | 238 |
| 310-319 | 018 | 068 | 078 | 077 | 050 | 012 | | | | | | | | | | | | | | | | | | | | 303 |
| 320-329 | 023 | 063 | 071 | 049 | 023 | 001 | | | | | | | | | | | | | | | | | | | | 230 |
| 330-339 | 021 | 075 | 077 | 023 | 001 | | | | | | | | | | | | | | | | | | | | | 197 |
| 340-349 | 023 | 075 | 038 | 001 | | | | | | | | | | | | | | | | | | | | | | 137 |
| 350-359 | 019 | 062 | 026 | 002 | | | | | | | | | | | | | | | | | | | | | | 109 |
| | 808 | 2044 | 1524 | 1051 | 628 | 388 | 176 | 114 | 58 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6800 |

NUMBER OF ZERO RATES 14


QUEEN CHARLOTTE STRAIT
PROGRESSIVE VECTOR DIAGRAM
△START OF OBSERVATIONS
□ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
Q02 075M 8400 64 /77 71
SCALE
50 KM
N
66
68
71
74
103
106
108
110
120
124
126
128
130
133

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN 002 DEPTH 300 QUEEN CHARLOTTE ST. 50 46.2 N 127 21.9 W LENGTH OF RECORD= 34 DAYS

START OF RECORD 22 MN 10 HR 30 DY 1 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 018 | 011 | 001 | | | | | | | | | | | | | | | | | | | | | | | 30 |
| 10- 19 | 013 | 012 | | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 20- 29 | 009 | 013 | 001 | | | | | | | | | | | | | | | | | | | | | | | 22 |
| 30- 39 | 014 | 013 | 006 | | | | | | | | | | | | | | | | | | | | | | | 33 |
| 40- 49 | 009 | 021 | 012 | | | | | | | | | | | | | | | | | | | | | | | 42 |
| 50- 59 | 015 | 028 | 015 | 003 | | | | | | | | | | | | | | | | | | | | | | 61 |
| 60- 69 | 019 | 047 | 015 | | | | | | | | | | | | | | | | | | | | | | | 81 |
| 70- 79 | 012 | 056 | 039 | 009 | | | | | | | | | | | | | | | | | | | | | | 116 |
| 80- 89 | 019 | 047 | 073 | 017 | 011 | 009 | 001 | | | | | | | | | | | | | | | | | | | 177 |
| 90- 99 | 012 | 049 | 097 | 057 | 051 | 041 | 023 | 003 | 001 | | | | | | | | | | | | | | | | | 334 |
| 100-109 | 007 | 036 | 075 | 069 | 085 | 071 | 025 | 004 | 002 | | | | | | | | | | | | | | | | | 374 |
| 110-119 | 010 | 026 | 042 | 032 | 018 | 022 | 014 | 002 | | | | | | | | | | | | | | | | | | 166 |
| 120-129 | 009 | 024 | 030 | 006 | 001 | 002 | | | | | | | | | | | | | | | | | | | | 72 |
| 130-139 | 006 | 020 | 006 | 002 | | | | | | | | | | | | | | | | | | | | | | 34 |
| 140-149 | 004 | 011 | 002 | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 150-159 | 007 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 160-169 | 010 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 170-179 | 006 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 180-189 | 010 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 190-199 | 003 | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 200-209 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 210-219 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 220-229 | 008 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 230-239 | 011 | 009 | | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 240-249 | 011 | 009 | 005 | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 250-259 | 016 | 030 | 017 | 003 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 68 |
| 260-269 | 015 | 051 | 050 | 041 | 031 | 024 | 020 | 006 | | | | | | | | | | | | | | | | | | 238 |
| 270-279 | 017 | 062 | 097 | 094 | 101 | 089 | 079 | 037 | 001 | | | | | | | | | | | | | | | | | 577 |
| 280-289 | 009 | 075 | 058 | 068 | 057 | 057 | 028 | 011 | | | | | | | | | | | | | | | | | | 362 |
| 290-299 | 018 | 046 | 029 | 006 | 005 | | 002 | | | | | | | | | | | | | | | | | | | 106 |
| 300-309 | 009 | 020 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | 36 |
| 310-319 | 011 | 019 | 005 | | | | | | | | | | | | | | | | | | | | | | | 35 |
| 320-329 | 011 | 014 | 001 | | | | | | | | | | | | | | | | | | | | | | | 26 |
| 330-339 | 014 | 015 | | | | | | | | | | | | | | | | | | | | | | | | 29 |
| 340-349 | 009 | 009 | | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 350-359 | 016 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | 23 |
| | | 297 | | 409 | | 316 | | 63 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 3229 |
| | 395 | | 682 | | 361 | | 192 | | 4 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

NUMBER OF ZERO RATES 38

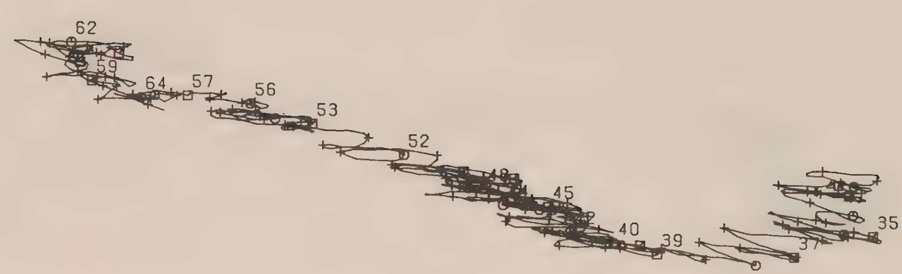
QUEEN CHARLOTTE STRAIT
PROGRESSIVE VECTOR DIAGRAM

△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
⊙EVEN NUMBERED DAYS
+SIX HOUR INTERVAL

| STN | DEPTH | AREA | DAY/YR | NO DAYS |
|---|---|---|---|---|
| Q02 | 300M | 8400 | 30 /77 | 34 |

SCALE
10 KM

N



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

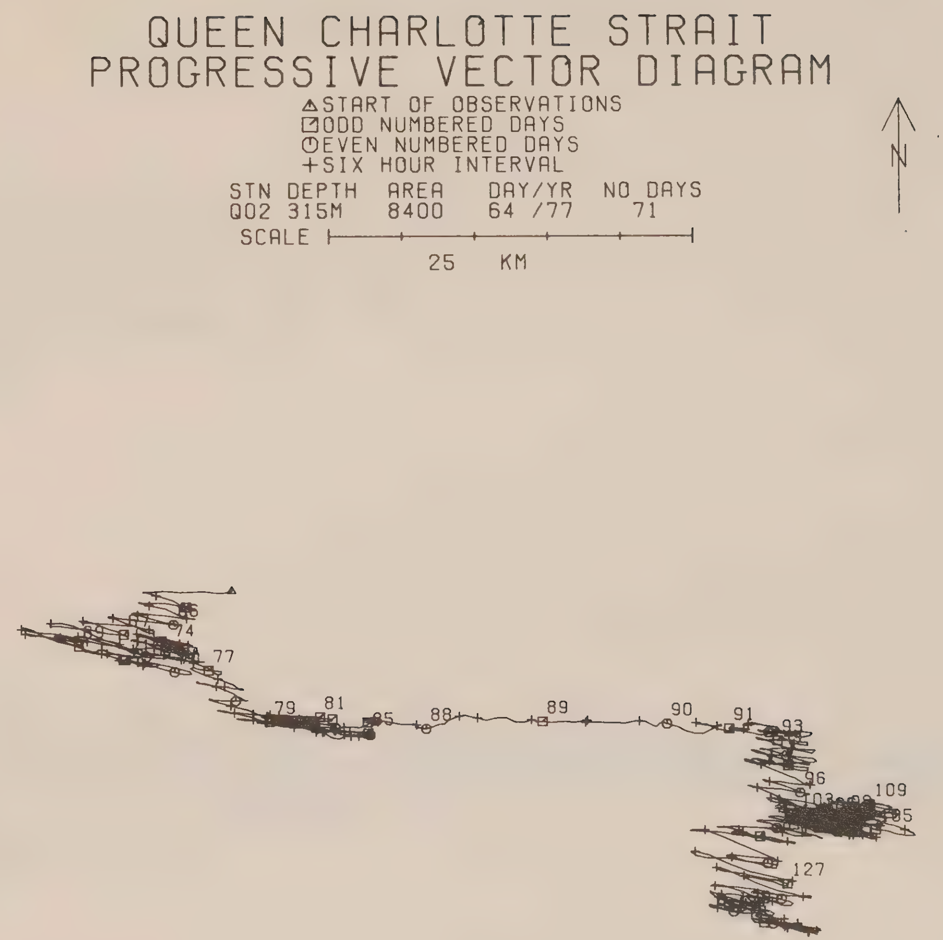
STN 002 DEPTH 315 QUEEN CHARLOTTE ST. 50 46.2 N , 127 21.9 W LENGTH OF RECORD= 71 DAYS

START OF RECORD 37 MN 13 HR 05 DY 03 MO 77 YR RATE OF OBSER.= 4 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 018 | 016 | | | | | | | | | | | | | | | | | | | | | | | | 34 |
| 10- 19 | 018 | 011 | | | | | | | | | | | | | | | | | | | | | | | | 29 |
| 20- 29 | 027 | 016 | | | | | | | | | | | | | | | | | | | | | | | | 43 |
| 30- 39 | 034 | 027 | | | | | | | | | | | | | | | | | | | | | | | | 61 |
| 40- 49 | 040 | 028 | 007 | | | | | | | | | | | | | | | | | | | | | | | 75 |
| 50- 59 | 033 | 048 | 011 | 002 | | | | | | | | | | | | | | | | | | | | | | 94 |
| 60- 69 | 031 | 073 | 039 | 004 | | | | | | | | | | | | | | | | | | | | | | 147 |
| 70- 79 | 028 | 084 | 051 | 028 | 001 | | | | | | | | | | | | | | | | | | | | | 192 |
| 80- 89 | 025 | 096 | 126 | 078 | 019 | 001 | | | | | | | | | | | | | | | | | | | | 337 |
| 90- 99 | 031 | 145 | 209 | 128 | 103 | 033 | 005 | | | | | | | | | | | | | | | | | | | 654 |
| 100-109 | 031 | 116 | 179 | 212 | 244 | 196 | 063 | 016 | 008 | | | | | | | | | | | | | | | | | 1065 |
| 110-119 | 025 | 080 | 077 | 091 | 088 | 072 | 070 | 025 | 010 | 006 | | | | | | | | | | | | | | | | 544 |
| 120-129 | 014 | 048 | 026 | 014 | 013 | 018 | 002 | | | | | | | | | | | | | | | | | | | 135 |
| 130-139 | 034 | 015 | 005 | 003 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 59 |
| 140-149 | 020 | 019 | | | | | | | | | | | | | | | | | | | | | | | | 39 |
| 150-159 | 007 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 160-169 | 013 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 170-179 | 014 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 180-189 | 014 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 190-199 | 013 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 200-209 | 011 | | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 210-219 | 008 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 220-229 | 012 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 230-239 | 011 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 240-249 | 012 | 008 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 23 |
| 250-259 | 024 | 043 | 009 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | 81 |
| 260-269 | 039 | 112 | 084 | 050 | 041 | 019 | 014 | 006 | 001 | | | | | | | | | | | | | | | | | 366 |
| 270-279 | 033 | 152 | 187 | 213 | 255 | 181 | 082 | 031 | 007 | 004 | 001 | | | | | | | | | | | | | | | 1152 |
| 280-289 | 037 | 122 | 159 | 226 | 135 | 075 | 037 | 022 | | 001 | | | | | | | | | | | | | | | | 816 |
| 290-299 | 036 | 090 | 054 | 020 | 014 | 005 | | | 001 | | | | | | | | | | | | | | | | | 229 |
| 300-309 | 025 | 057 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | 89 |
| 310-319 | 041 | 033 | 005 | | | | | | | | | | | | | | | | | | | | | | | 79 |
| 320-329 | 031 | 017 | 001 | | | | | | | | | | | | | | | | | | | | | | | 49 |
| 330-339 | 030 | 019 | | | | | | | | | | | | | | | | | | | | | | | | 49 |
| 340-349 | 031 | 010 | 001 | | | | | | | | | | | | | | | | | | | | | | | 42 |
| 350-359 | 029 | 020 | | | | | | | | | | | | | | | | | | | | | | | | 49 |
| | 880 | 1525 | 1238 | 1073 | 926 | 601 | 273 | 100 | 27 | 11 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6655 |

NUMBER OF ZERO RATES 153


QUEEN CHARLOTTE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
Q02 315M 8400 64 /77 71
SCALE
25 KM
N
74
77
79
81
88
89
90
91
93
96
109
127

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

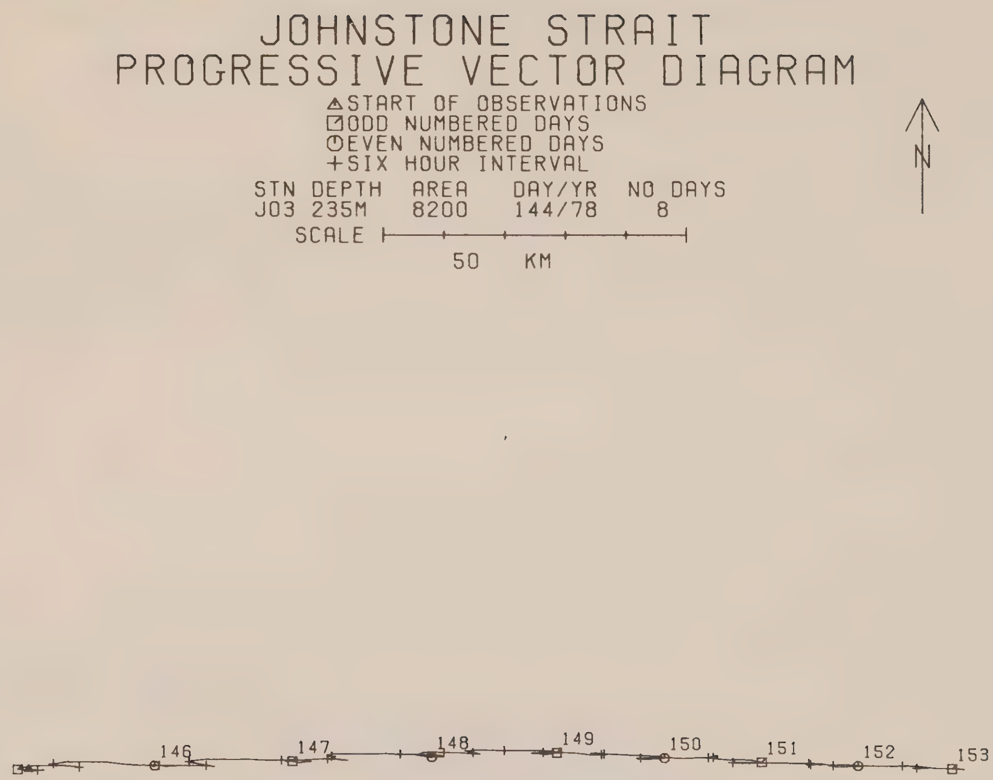
STN J03 DEPTH 235 JOHNSTONE ST. 50 28.3 N 126 7.9 W LENGTH OF RECORD= 8 DAYS

START OF RECORD 12 MN 17 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 003 | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 10- 19 | 002 | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 20- 29 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 30- 39 | 001 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 40- 49 | 001 | 009 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 13 |
| 50- 59 | 004 | 007 | 005 | 004 | 004 | | | | | | | | | | | | | | | | | | | | | 24 |
| 60- 69 | 004 | 007 | 011 | 008 | 005 | 005 | 002 | 001 | | | | | | | | | | | | | | | | | | 43 |
| 70- 79 | 004 | 011 | 006 | 006 | 010 | 010 | 011 | 017 | 006 | 005 | | 001 | | | | | | | | | | | | | | 87 |
| 80- 89 | 006 | 017 | 010 | 007 | 018 | 030 | 011 | 026 | 023 | 021 | 024 | 033 | 036 | 055 | 027 | 027 | 014 | 013 | 006 | 008 | 007 | 002 | | | | 421 |
| 90- 99 | 008 | 016 | 015 | 022 | 031 | 033 | 038 | 037 | 043 | 073 | 077 | 066 | 055 | 071 | 045 | 030 | 027 | 017 | 010 | 018 | 013 | 007 | 003 | | | 759 |
| 100-109 | 003 | 008 | 010 | 009 | 009 | 016 | 015 | 017 | 016 | 012 | 010 | 001 | | | | | | 001 | | 002 | | | | | | 129 |
| 110-119 | 002 | 005 | 004 | 001 | 002 | 001 | 003 | | | | | | | | | | | | | | | | | | | 18 |
| 120-129 | 004 | 009 | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 130-139 | 004 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 140-149 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 150-159 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 160-169 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 170-179 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 180-189 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 190-199 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 200-209 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 210-219 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 220-229 | 001 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 230-239 | 003 | 003 | | 001 | 002 | | | | | | | | | | | | | | | | | | | | | 9 |
| 240-249 | 002 | 010 | 007 | 005 | 001 | 002 | | | | | | | | | | | | | | | | | | | | 27 |
| 250-259 | 002 | 009 | 011 | 007 | 013 | 012 | 003 | 001 | 002 | | | | | | | | | | | | | | | | | 60 |
| 260-269 | 006 | 013 | 019 | 018 | 035 | 022 | 026 | 021 | 047 | 021 | 005 | | | | | | | | | | | | | | | 233 |
| 270-279 | 003 | 013 | 021 | 026 | 046 | 031 | 040 | 022 | 037 | 016 | 001 | | | | | | | | | | | | | | | 256 |
| 280-289 | 004 | 017 | 019 | 021 | 022 | 021 | 021 | 014 | 015 | | | | | | | | | | | | | | | | | 154 |
| 290-299 | 007 | 010 | 004 | 003 | 017 | 010 | 007 | 001 | | | | | | | | | | | | | | | | | | 59 |
| 300-309 | 002 | 005 | 007 | 002 | 001 | | 005 | | | | | | | | | | | | | | | | | | | 22 |
| 310-319 | 011 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 320-329 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 330-339 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 340-349 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 350-359 | 004 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| | 114 | 201 | 153 | 141 | 216 | 193 | 182 | 157 | 189 | 148 | 117 | 101 | 91 | 126 | 76 | 57 | 41 | 31 | 16 | 28 | 20 | 9 | 3 | 0 | 0 | 2410 |

NUMBER OF ZERO RATES 32


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J03 235M 8200 144/78 8
SCALE
50 KM
N
146
147
148
149
150
151
152
153

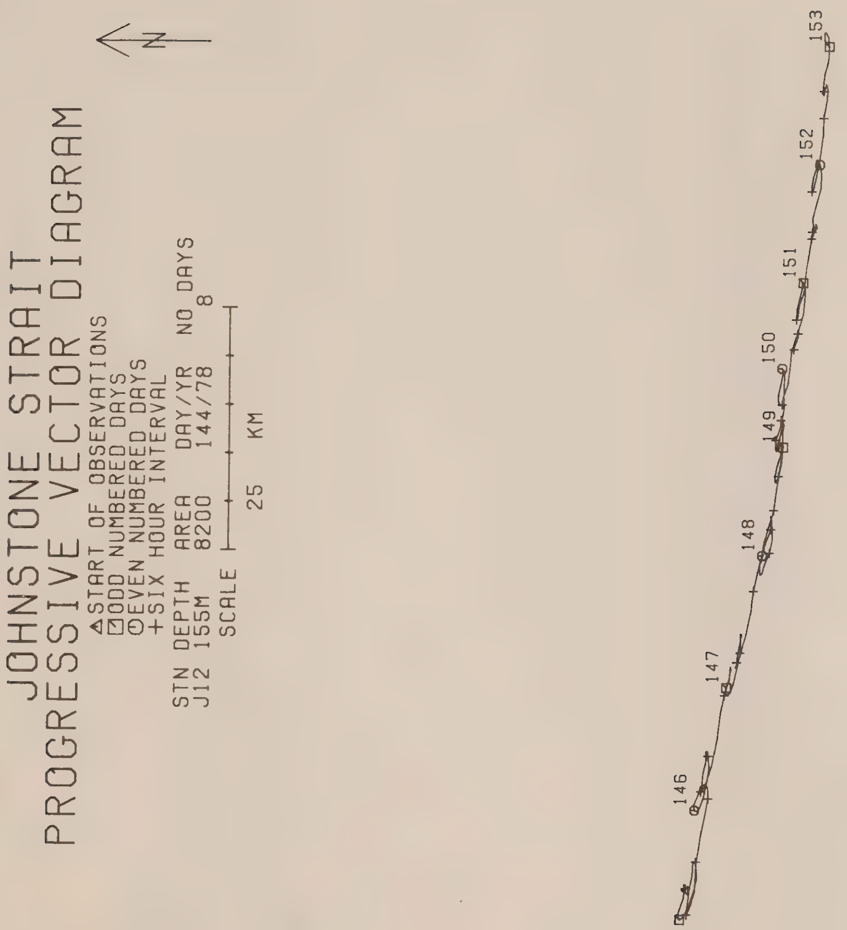
FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J12 DEPTH 155 JOHNSTONE ST. 50 28.4 N 126 10.1 W LENGTH OF RECORD= 8 DAYS
START OF RECORD 47 MN 17 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 004 | 009 | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 10- 19 | 002 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 20- 29 | 001 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 30- 39 | 001 | 007 | | 003 | | | | | | | | | | | | | | | | | | | | | | 11 |
| 40- 49 | 004 | 008 | 001 | 004 | | | | | | | | | | | | | | | | | | | | | | 17 |
| 50- 59 | 002 | 013 | 012 | 004 | 002 | 002 | | | | | | | | | | | | | | | | | | | | 35 |
| 60- 69 | 004 | 012 | 013 | 012 | 003 | | 001 | | | | | | | | | | | | | | | | | | | 45 |
| 70- 79 | 002 | 014 | 011 | 013 | 015 | 009 | 009 | | 001 | | | | | | | | | | | | | | | | | 74 |
| 80- 89 | 001 | 014 | 016 | 019 | 020 | 017 | 027 | 026 | 014 | 013 | 001 | 003 | 001 | 001 | 004 | 002 | | | | | | | | | | 179 |
| 90- 99 | 004 | 013 | 011 | 016 | 021 | 028 | 039 | 027 | 047 | 039 | 019 | 024 | 018 | 008 | 011 | 015 | | | | | | | | | | 340 |
| 100-109 | 002 | 011 | 026 | 013 | 017 | 029 | 024 | 044 | 057 | 096 | 061 | 036 | 025 | 018 | 019 | 012 | | | | | | | | | | 490 |
| 110-119 | 001 | 008 | 007 | 002 | 009 | 011 | 012 | 024 | 017 | 016 | 003 | 001 | 002 | | | | | | | | | | | | | 113 |
| 120-129 | 005 | 008 | 009 | 007 | 010 | 001 | 002 | 004 | 002 | | | | | | | | | | | | | | | | | 48 |
| 130-139 | 003 | 003 | 004 | 006 | 005 | | | | | | | | | | | | | | | | | | | | | 21 |
| 140-149 | 003 | 006 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | 16 |
| 150-159 | 002 | 002 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | 11 |
| 160-169 | 002 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 170-179 | 003 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 180-189 | 002 | 004 | 003 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 190-199 | 003 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 200-209 | | 004 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 210-219 | 002 | 010 | | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 220-229 | 004 | 012 | 003 | | | | | | | | | | | | | | | | | | | | | | | 19 |
| 230-239 | | 008 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | | 17 |
| 240-249 | 002 | 015 | 009 | 001 | | | | | | | | | | | | | | | | | | | | | | 27 |
| 250-259 | 002 | 019 | 021 | 006 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 50 |
| 260-269 | 005 | 012 | 034 | 024 | 028 | 037 | 003 | | | | | | | | | | | | | | | | | | | 143 |
| 270-279 | 004 | 029 | 025 | 027 | 034 | 065 | 033 | 017 | 008 | | | | | | | | | | | | | | | | | 242 |
| 280-289 | 009 | 012 | 017 | 020 | 032 | 037 | 064 | 023 | 004 | 003 | | | | | | | | | | | | | | | | 221 |
| 290-299 | 004 | 010 | 015 | 009 | 023 | 024 | 018 | 007 | 003 | | | | | | | | | | | | | | | | | 113 |
| 300-309 | 008 | 007 | 013 | 002 | 004 | 004 | | | | | | | | | | | | | | | | | | | | 38 |
| 310-319 | 002 | 009 | 004 | | 001 | | | | | | | | | | | | | | | | | | | | | 16 |
| 320-329 | 003 | 002 | 005 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 12 |
| 330-339 | 003 | 006 | 003 | 004 | | | | | | | | | | | | | | | | | | | | | | 16 |
| 340-349 | 006 | 002 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | 14 |
| 350-359 | | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | | 5 |
| | 105 | 323 | 293 | 199 | 226 | 265 | 232 | 172 | 153 | 167 | 84 | 64 | 46 | 27 | 34 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2419 |

NUMBER OF ZERO RATES 9



JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
⊙EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J12 155M 8200 144/78 8
SCALE 25 KM
N
146
147
148
149
150
151
152
153

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

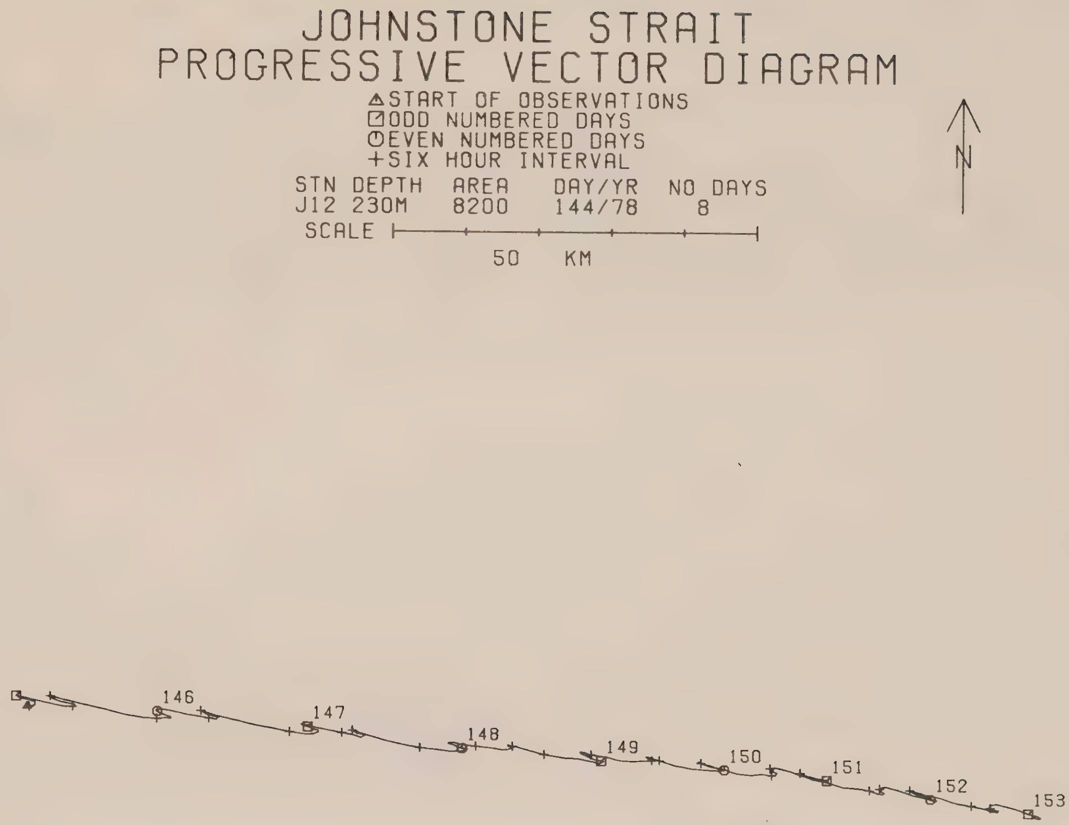
STN J12 DEPTH 230 JOHNSTONE ST. 50 28.4 N 126 10.1 W LENGTH OF RECORD= 8 DAYS

START OF RECORD 47 MN 17 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 006 | 004 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 12 |
| 10- 19 | 004 | 013 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | 22 |
| 20- 29 | 005 | 014 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | 24 |
| 30- 39 | 003 | 009 | 010 | 003 | | | | | | | | | | | | | | | | | | | | | | 25 |
| 40- 49 | 005 | 011 | 004 | 005 | | | | | | | | | | | | | | | | | | | | | | 25 |
| 50- 59 | 002 | 008 | 017 | 002 | | | 002 | | | | | | | | | | | | | | | | | | | 31 |
| 60- 69 | 003 | 015 | 009 | 007 | 012 | 005 | 002 | | | | | | | | | | | | | | | | | | | 53 |
| 70- 79 | 004 | 014 | 013 | 020 | 020 | 008 | 004 | 001 | | | | | | | | | | | | | | | | | | 84 |
| 80- 89 | | 009 | 008 | 018 | 019 | 021 | 011 | 012 | 005 | 012 | 003 | 002 | | | | | | | | | | | | | | 120 |
| 90- 99 | | 014 | 010 | 015 | 022 | 035 | 028 | 037 | 037 | 039 | 054 | 045 | 028 | 021 | 010 | 003 | 004 | | | | | | | | | 402 |
| 100-109 | 001 | 006 | 006 | 012 | 023 | 022 | 034 | 044 | 078 | 071 | 084 | 069 | 036 | 047 | 020 | 042 | 026 | 001 | 001 | | | | | | | 623 |
| 110-119 | 002 | 009 | 010 | 012 | 014 | 009 | 009 | 014 | 019 | 011 | 010 | 008 | 001 | 002 | | | | | | | | | | | | 130 |
| 120-129 | 001 | 004 | 011 | 010 | 003 | | 002 | | | | | | | | | | | | | | | | | | | 31 |
| 130-139 | 002 | 007 | 006 | 004 | | | | | | | | | | | | | | | | | | | | | | 19 |
| 140-149 | 003 | 005 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | | 14 |
| 150-159 | 002 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 160-169 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 170-179 | 002 | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 180-189 | 002 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 190-199 | 003 | 006 | | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 200-209 | 001 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 210-219 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 220-229 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 230-239 | | 001 | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 240-249 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 250-259 | 003 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 260-269 | 003 | 008 | 013 | 004 | 005 | | | | | | | | | | | | | | | | | | | | | 33 |
| 270-279 | 004 | 016 | 021 | 024 | 021 | 009 | 005 | 001 | | | | | | | | | | | | | | | | | | 101 |
| 280-289 | 002 | 018 | 032 | 019 | 031 | 040 | 029 | 039 | 006 | | | | | | | | | | | | | | | | | 216 |
| 290-299 | 004 | 019 | 029 | 017 | 023 | 022 | 027 | 019 | 004 | | | | | | | | | | | | | | | | | 164 |
| 300-309 | 009 | 032 | 025 | 012 | 022 | 005 | 003 | | | | | | | | | | | | | | | | | | | 108 |
| 310-319 | 004 | 014 | 017 | 005 | 005 | | | | | | | | | | | | | | | | | | | | | 45 |
| 320-329 | 007 | 018 | 014 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | 45 |
| 330-339 | 003 | 011 | 011 | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 340-349 | 004 | 001 | 004 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 350-359 | 005 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | | 12 |
| | 113 | 304 | 283 | 202 | 221 | 176 | 156 | 167 | 149 | 133 | 151 | 124 | 65 | 70 | 30 | 45 | 30 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2421 |

NUMBER OF ZERO RATES 6


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
△START OF OBSERVATIONS
□ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J12 230M 8200 144/78 8
SCALE
50 KM
N
146
147
148
149
150
151
152
153

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

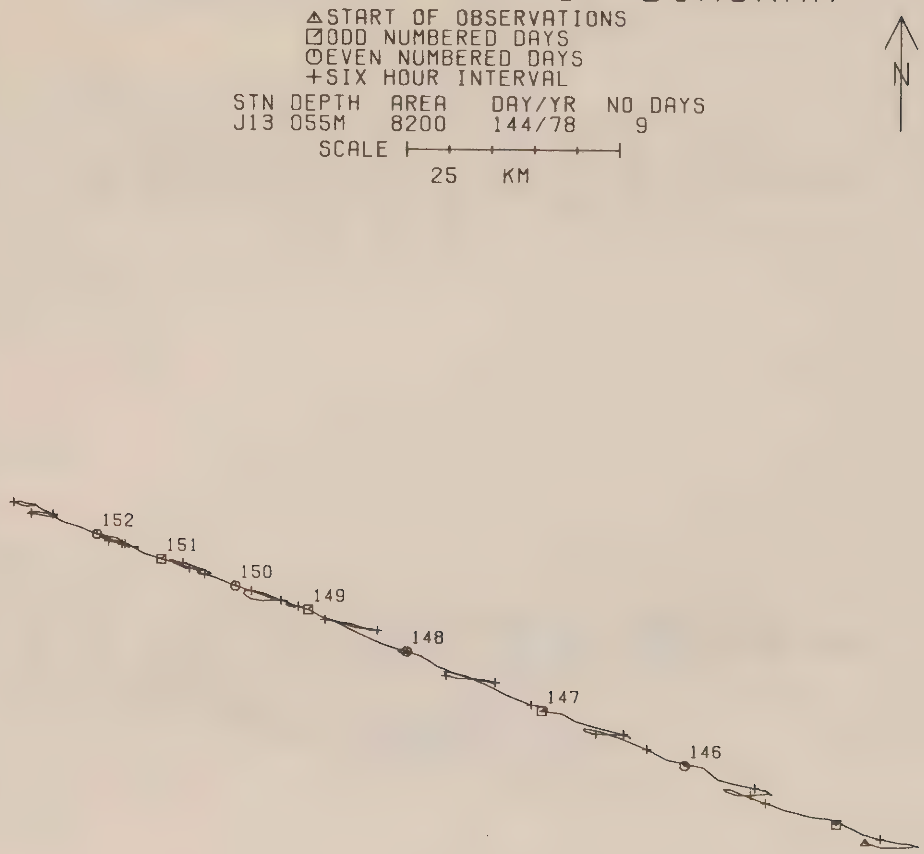
STN J13 DEPTH 055 JOHNSTONE ST. 50 28.1 N 126 3.3 W LENGTH OF RECORD= 9 DAYS
START OF RECORD 32 MN 12 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 005 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 10- 19 | 005 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 20- 29 | 004 | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 30- 39 | 003 | 006 | | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 40- 49 | 002 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 50- 59 | 006 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 60- 69 | 008 | 008 | 012 | 001 | | | | | | | | | | | | | | | | | | | | | | 29 |
| 70- 79 | 006 | 008 | 011 | 011 | 012 | 004 | | | | | | | | | | | | | | | | | | | | 52 |
| 80- 89 | 003 | 015 | 026 | 027 | 014 | 018 | 022 | 015 | 011 | 010 | 002 | | | | | | | | | | | | | | | 163 |
| 90- 99 | 003 | 018 | 020 | 021 | 022 | 031 | 022 | 018 | 029 | 024 | 001 | | | | | | | | | | | | | | | 209 |
| 100-109 | 008 | 014 | 027 | 020 | 036 | 032 | 008 | 008 | 018 | 007 | 005 | | | | | | | | | | | | | | | 183 |
| 110-119 | 004 | 013 | 018 | 014 | 021 | 021 | 014 | 008 | 005 | 001 | 001 | | | | | | | | | | | | | | | 120 |
| 120-129 | 003 | 017 | 020 | 009 | 011 | 003 | 007 | | | | | | | | | | | | | | | | | | | 70 |
| 130-139 | 002 | 008 | 019 | 006 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 38 |
| 140-149 | 003 | 008 | 013 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | 27 |
| 150-159 | 003 | | 002 | 004 | 003 | | | | | | | | | | | | | | | | | | | | | 12 |
| 160-169 | 003 | 005 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 12 |
| 170-179 | 004 | 002 | 002 | 004 | | | | | | | | | | | | | | | | | | | | | | 12 |
| 180-189 | 002 | 003 | | 001 | | | | | | | | | | | | | | | | | | | | | | 6 |
| 190-199 | 004 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 200-209 | 002 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 210-219 | 004 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 220-229 | 001 | 010 | 001 | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 230-239 | 002 | 003 | 002 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | 10 |
| 240-249 | 005 | 007 | 008 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | 23 |
| 250-259 | 001 | 009 | 008 | 011 | 007 | | | 001 | | | | | 001 | 001 | | | | | | | | | | | | 39 |
| 260-269 | 004 | 005 | 012 | 013 | 024 | 016 | 003 | 004 | 005 | | 002 | | 002 | 003 | | | | | | | | | | | | 93 |
| 270-279 | 002 | 009 | 019 | 015 | 034 | 025 | 026 | 038 | 017 | 017 | 020 | 017 | 013 | 013 | 006 | 003 | | 001 | 001 | | | | | | | 276 |
| 280-289 | 002 | 008 | 011 | 011 | 019 | 034 | 030 | 029 | 032 | 041 | 055 | 030 | 019 | 023 | 011 | 006 | 007 | 002 | | 001 | | | | | | 371 |
| 290-299 | 005 | 012 | 006 | 022 | 012 | 021 | 025 | 020 | 022 | 019 | 039 | 030 | 029 | 033 | 016 | 018 | 017 | 008 | 005 | 001 | | | | | | 360 |
| 300-309 | 004 | 019 | 010 | 009 | 010 | 009 | 009 | 011 | 008 | 009 | 003 | 010 | 014 | 008 | 010 | 001 | 002 | | | | | | | | | 146 |
| 310-319 | 002 | 008 | 012 | 006 | 004 | 006 | 003 | 006 | 003 | 001 | 004 | 004 | 002 | 003 | | 001 | | | | | | | | | | 65 |
| 320-329 | 004 | 004 | 005 | 002 | | | 001 | | | | | | 001 | | 001 | | | | | | | | | | | 18 |
| 330-339 | 006 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 340-349 | 001 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 350-359 | 004 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | 6 |
| | 130 | 256 | 276 | 211 | 238 | 221 | 170 | 158 | 150 | 129 | 132 | 91 | 81 | 84 | 44 | 29 | 26 | 11 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 2445 |

NUMBER OF ZERO RATES 15

# JOHNSTONE STRAIT
# PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

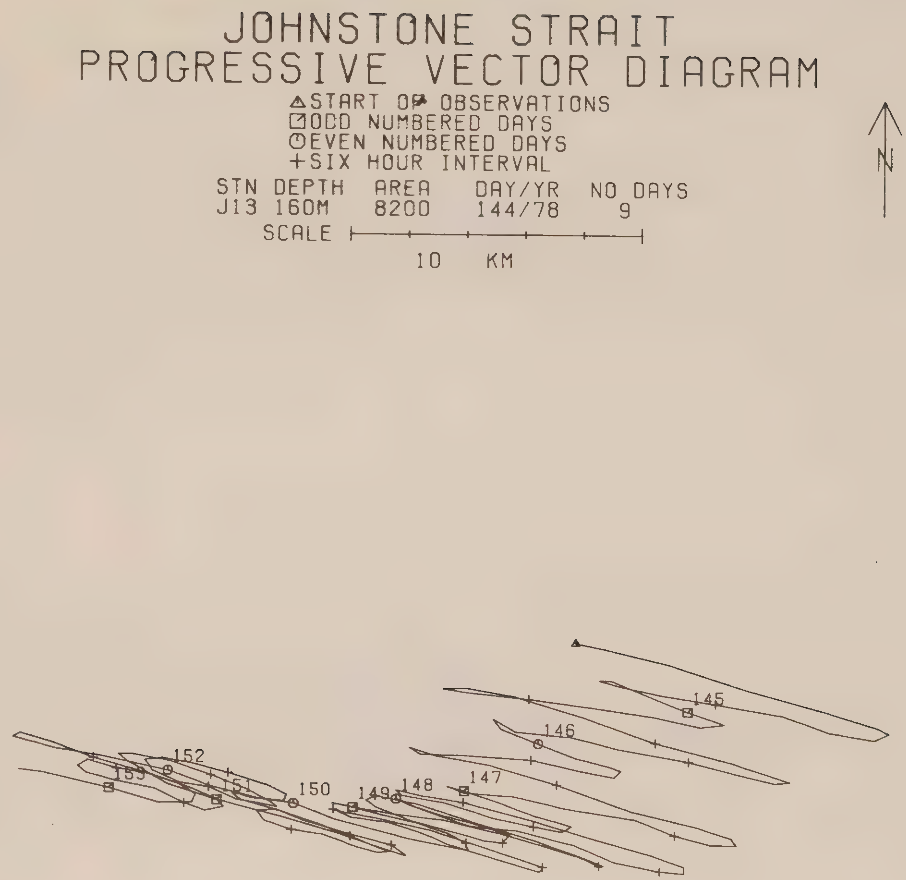
STN J13 DEPTH 160 JOHNSTONE ST. 50 28.1 N 126 3.3 W LENGTH OF RECORD= 9 DAYS

START OF RECORD 27 MN 12 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | | | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 3 |
| 10- 19 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 20- 29 | | | 001 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 30- 39 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 40- 49 | | | 001 | 001 | 003 | | | | | | | | | | | | | | | | | | | | | 5 |
| 50- 59 | | | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | 4 |
| 60- 69 | | | | 001 | | | | | | | | | | | | | | | | | | | | | | 1 |
| 70- 79 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 80- 89 | | | | | | | 001 | | | | | | | | | | | | | | | | | | | 1 |
| 90- 99 | 002 | | 006 | 010 | 016 | 017 | 019 | 018 | 009 | 006 | 002 | 001 | 003 | | | | | | | | | | | | | 109 |
| 100-109 | | 004 | 018 | 026 | 039 | 080 | 075 | 073 | 079 | 041 | 029 | 035 | 037 | 030 | 026 | 016 | 008 | 001 | | | | | | | | 617 |
| 110-119 | | 003 | 012 | 015 | 039 | 049 | 047 | 030 | 038 | 012 | 009 | 003 | 004 | 002 | 006 | 007 | 001 | | | | | | | | | 277 |
| 120-129 | 002 | 006 | 010 | 006 | 014 | 005 | | | | | | | | | | | | | | | | | | | | 43 |
| 130-139 | 002 | 015 | 009 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 29 |
| 140-149 | 004 | 006 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | 15 |
| 150-159 | 003 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 160-169 | 002 | 005 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 170-179 | 005 | 003 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 11 |
| 180-189 | 005 | 003 | | 001 | | | | | | | | | | | | | | | | | | | | | | 9 |
| 190-199 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 200-209 | 009 | 012 | 001 | | | | | | | | | | | | | | | | | | | | | | | 22 |
| 210-219 | 006 | 015 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | | 30 |
| 220-229 | 001 | 004 | 008 | 006 | 002 | | | | | | | | | | | | | | | | | | | | | 21 |
| 230-239 | 001 | 002 | 008 | 008 | 005 | 001 | | | | | | | | | | | | | | | | | | | | 25 |
| 240-249 | | 001 | 005 | 011 | 003 | 001 | | | | | | | | | | | | | | | | | | | | 21 |
| 250-259 | 001 | 001 | 002 | 008 | 005 | | | | | | 002 | 001 | | | | | | | | | | | | | | 20 |
| 260-269 | | | 008 | 012 | 010 | 004 | 004 | 003 | 004 | 005 | 011 | 004 | | 001 | 001 | | | | | | | | | | | 67 |
| 270-279 | | 002 | 005 | 008 | 012 | 025 | 033 | 040 | 039 | 023 | 022 | 016 | 025 | 025 | 012 | 010 | 003 | 002 | | | | | | | | 302 |
| 280-289 | 002 | 002 | 011 | 016 | 034 | 039 | 039 | 053 | 062 | 039 | 038 | 029 | 023 | 016 | 009 | 002 | 002 | | | | | | | | | 416 |
| 290-299 | 001 | 001 | 011 | 015 | 012 | 023 | 033 | 043 | 039 | 023 | 025 | 009 | 005 | 002 | 002 | | | | | | | | | | | 244 |
| 300-309 | | 008 | 013 | 010 | 006 | 006 | 009 | 003 | 003 | 004 | 004 | 003 | 001 | | | | | | | | | | | | | 70 |
| 310-319 | | 006 | 011 | 004 | 001 | 001 | | | | 001 | | | 001 | | | | | | | | | | | | | 25 |
| 320-329 | 003 | 006 | 014 | 003 | | | | | | | | | | | | | | | | | | | | | | 26 |
| 330-339 | 003 | 018 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | 27 |
| 340-349 | | 011 | 015 | | | | | | | | | | | | | | | | | | | | | | | 26 |
| 350-359 | | 003 | 010 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 15 |
| | 53 | 147 | 199 | 172 | 205 | 251 | 260 | 263 | 273 | 154 | 142 | 101 | 99 | 76 | 56 | 35 | 14 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2503 |

NUMBER OF ZERO RATES 4


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J13 160M 8200 144/78 9
SCALE
10 KM
N
145
146
147
148
149
150
151
152
153

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J13 DEPTH 245 JOHNSTONE ST. 50 28.1 N 126 3.3 W LENGTH OF RECORD= 9 DAYS

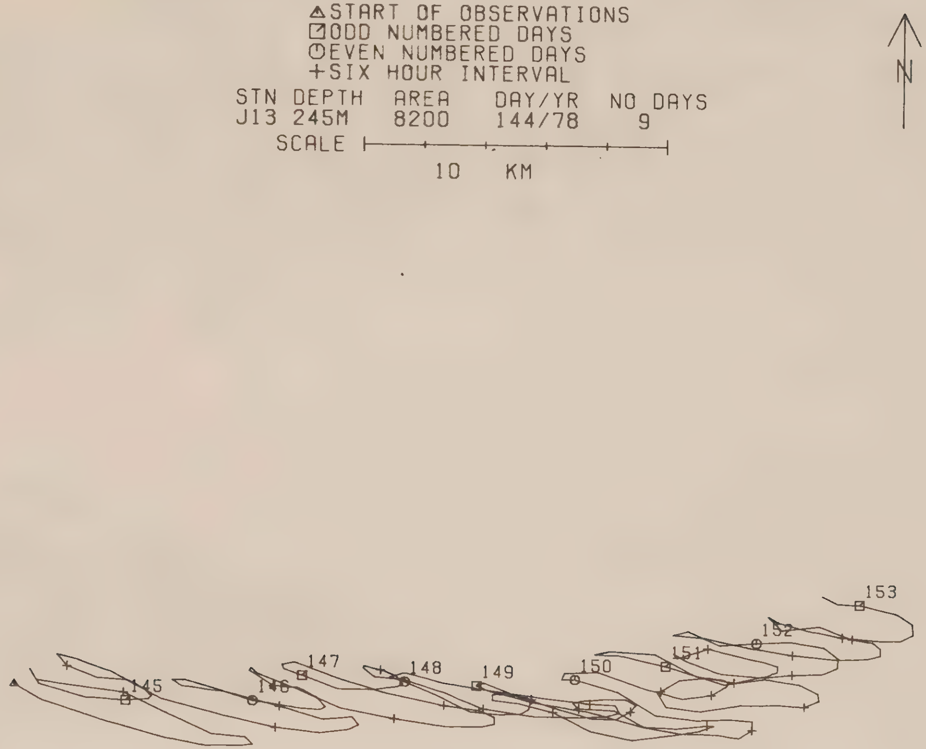
START OF RECORD 27 MN 12 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 001 | 018 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 23 |
| 10- 19 | 007 | 015 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 24 |
| 20- 29 | 007 | 006 | 010 | 002 | | | | | | | | | | | | | | | | | | | | | | 25 |
| 30- 39 | 009 | 010 | 010 | 002 | | | | | | | | | | | | | | | | | | | | | | 31 |
| 40- 49 | 003 | 012 | 010 | | 001 | | | | | | | | | | | | | | | | | | | | | 26 |
| 50- 59 | 007 | 013 | 013 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | 41 |
| 60- 69 | 008 | 012 | 019 | 011 | 003 | 001 | 001 | | | | | | | | | | | | | | | | | | | 55 |
| 70- 79 | 003 | 006 | 025 | 020 | 025 | 028 | 004 | 007 | 003 | | | | | | | | | | | | | | | | | 121 |
| 80- 89 | | 006 | 011 | 023 | 038 | 047 | 059 | 030 | 011 | 002 | 001 | | | | | | | | | | | | | | | 228 |
| 90- 99 | | 004 | 011 | 015 | 021 | 034 | 042 | 049 | 042 | 020 | 007 | 002 | 001 | | | | | | | | | | | | | 248 |
| 100-109 | | 006 | 005 | 013 | 016 | 009 | 034 | 049 | 045 | 034 | 022 | 009 | 012 | 001 | | | | | | | | | | | | 255 |
| 110-119 | 001 | 004 | 011 | 008 | 006 | 009 | 013 | 037 | 040 | 016 | 009 | 002 | 002 | 001 | | | | | | | | | | | | 159 |
| 120-129 | | 002 | 007 | 005 | 002 | 004 | 012 | 009 | 006 | 005 | 002 | 001 | | | | | | | | | | | | | | 55 |
| 130-139 | 001 | 005 | 003 | 011 | 007 | 001 | 001 | | | | | | | | | | | | | | | | | | | 29 |
| 140-149 | | 003 | 004 | 002 | 005 | | | | | | | | | | | | | | | | | | | | | 14 |
| 150-159 | 002 | 003 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 8 |
| 160-169 | 001 | 002 | 006 | 003 | | | | | | | | | | | | | | | | | | | | | | 12 |
| 170-179 | 001 | 003 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 8 |
| 180-189 | 001 | 001 | 002 | | 001 | | | | | | | | | | | | | | | | | | | | | 5 |
| 190-199 | | 004 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | 9 |
| 200-209 | 002 | | | 001 | | 001 | 001 | | | | | | | | | | | | | | | | | | | 5 |
| 210-219 | 004 | | | 002 | 003 | 002 | 003 | | | | | | | | | | | | | | | | | | | 14 |
| 220-229 | 003 | 001 | | | 002 | 002 | | | | | | | | | | | | | | | | | | | | 8 |
| 230-239 | 002 | 001 | 002 | 002 | 003 | | 002 | | | | | | | | | | | | | | | | | | | 12 |
| 240-249 | | 004 | 004 | 001 | 001 | 005 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | 18 |
| 250-259 | | 003 | 008 | 007 | 007 | 018 | 016 | 005 | 001 | 001 | | | | | | | | | | | | | | | | 66 |
| 260-269 | | 011 | 016 | 019 | 021 | 021 | 020 | 008 | 007 | 005 | 004 | 002 | 002 | 001 | 001 | | | | | | | | | | | 138 |
| 270-279 | 002 | 003 | 010 | 021 | 024 | 024 | 018 | 015 | 013 | 022 | 011 | 009 | 015 | 009 | 002 | | | | | | | | | | | 198 |
| 280-289 | 003 | 008 | 014 | 020 | 018 | 012 | 014 | 018 | 012 | 015 | 017 | 007 | 005 | 004 | 002 | | | | | | | | | | | 169 |
| 290-299 | 003 | 010 | 017 | 020 | 018 | 018 | 014 | 014 | 015 | 012 | 011 | 002 | 001 | 001 | | | | | | | | | | | | 156 |
| 300-309 | 002 | 009 | 026 | 010 | 012 | 010 | 011 | 010 | 003 | 001 | 002 | | | | | | | | | | | | | | | 96 |
| 310-319 | 003 | 013 | 033 | 012 | 005 | 005 | 003 | 003 | 002 | | | | | | | | | | | | | | | | | 79 |
| 320-329 | 002 | 020 | 012 | 003 | 006 | 002 | 002 | 001 | | | | | | | | | | | | | | | | | | 48 |
| 330-339 | 002 | 017 | 006 | | 002 | | | | | | | | | | | | | | | | | | | | | 27 |
| 340-349 | 003 | 016 | 004 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 25 |
| 350-359 | 005 | 020 | 007 | | | | | | | | | | | | | | | | | | | | | | | 32 |
| | 88 | 271 | 318 | 247 | 249 | 253 | 271 | 256 | 201 | 133 | 86 | 34 | 38 | 17 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2467 |

NUMBER OF ZERO RATES 41

# JOHNSTONE STRAIT
# PROGRESSIVE VECTOR DIAGRAM



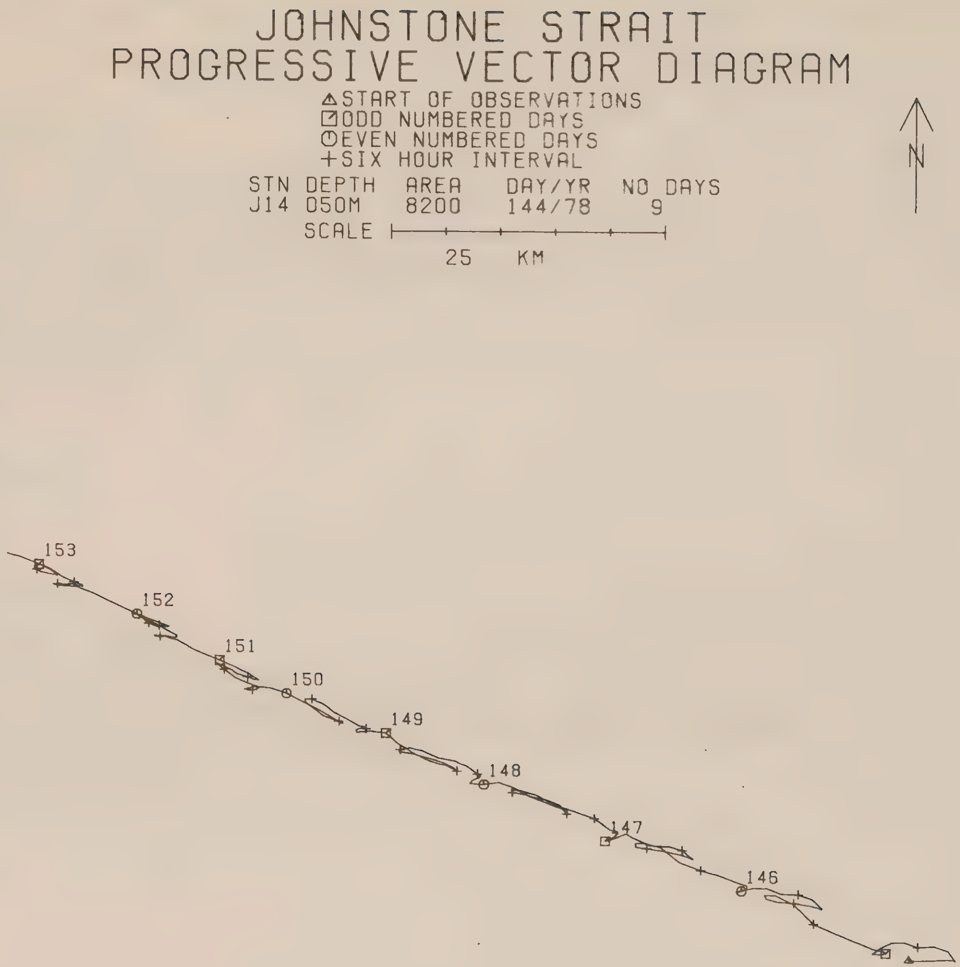
FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J14 DEPTH 050 JOHNSTONE ST. 50 27.7 N 126 3.7 W LENGTH OF RECORD= 9 DAYS
START OF RECORD 27 MN 13 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 006 | 007 | 003 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 10- 19 | | 007 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 20- 29 | 003 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 30- 39 | 004 | 005 | 004 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 40- 49 | 005 | 010 | 011 | | | | | | | | | | | | | | | | | | | | | | | 26 |
| 50- 59 | 001 | 008 | 016 | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 60- 69 | 003 | 018 | 019 | 007 | | | | | | | | | | | | | | | | | | | | | | 47 |
| 70- 79 | 002 | 027 | 026 | 017 | 002 | | | | | | | | | | | | | | | | | | | | | 74 |
| 80- 89 | 003 | 016 | 027 | 020 | 012 | 007 | 008 | 006 | 007 | | | | | | | | | | | | | | | | | 106 |
| 90- 99 | 004 | 015 | 028 | 018 | 023 | 008 | 015 | 015 | 012 | 009 | 002 | | | | | | | | | | | | | | | 149 |
| 100-109 | 002 | 018 | 030 | 034 | 033 | 028 | 010 | 021 | 019 | 014 | | | | | | | | | | | | | | | | 209 |
| 110-119 | 005 | 014 | 027 | 019 | 023 | 020 | 008 | 007 | 006 | 003 | | | | | | | | | | | | | | | | 132 |
| 120-129 | 003 | 013 | 017 | 005 | 016 | 017 | 008 | 002 | | | | | | | | | | | | | | | | | | 81 |
| 130-139 | 002 | 010 | 007 | 006 | 006 | 010 | 002 | 001 | | | | | | | | | | | | | | | | | | 44 |
| 140-149 | 005 | 002 | 008 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | 22 |
| 150-159 | 006 | 007 | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | 18 |
| 160-169 | 004 | 003 | 006 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 170-179 | 003 | 002 | 003 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 180-189 | 001 | 006 | 002 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 190-199 | 003 | 002 | 003 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 200-209 | 002 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 210-219 | 002 | 003 | | 001 | | | | | | | | | | | | | | | | | | | | | | 6 |
| 220-229 | 001 | 004 | 004 | | 001 | 003 | | 002 | | | | | | | | | | | | | | | | | | 15 |
| 230-239 | 001 | 005 | 002 | | 002 | 004 | | 002 | 001 | | | | | | | | | | | | | | | | | 17 |
| 240-249 | 001 | 001 | 010 | 001 | 003 | 004 | 005 | 007 | 002 | | | | | | | | | | | | | | | | | 34 |
| 250-259 | 004 | 008 | 003 | 006 | 005 | 013 | 005 | 016 | 012 | 005 | 001 | | | | | | | | | | | | | | | 78 |
| 260-269 | 003 | 009 | 013 | 008 | 008 | 014 | 014 | 014 | 013 | 008 | 003 | | 001 | | | | | | | | | | | | | 108 |
| 270-279 | 003 | 005 | 013 | 007 | 014 | 012 | 020 | 023 | 018 | 013 | 009 | 005 | | | | | | | | | | | | | | 142 |
| 280-289 | 006 | 014 | 018 | 013 | 019 | 021 | 035 | 043 | 035 | 032 | 026 | 021 | 009 | 001 | 002 | 001 | | | | | | | | | | 296 |
| 290-299 | | 013 | 006 | 024 | 023 | 028 | 035 | 047 | 041 | 044 | 045 | 024 | 016 | 007 | 005 | | 002 | | | | | | | | | 360 |
| 300-309 | 002 | 007 | 007 | 021 | 024 | 025 | 023 | 030 | 030 | 018 | 013 | 007 | 005 | 004 | 007 | 002 | | | | | | | | | | 230 |
| 310-319 | 001 | 013 | 005 | 003 | 007 | 010 | 010 | 013 | 008 | 004 | 005 | 004 | 004 | 003 | 003 | 002 | 001 | | | | | | | | | 96 |
| 320-329 | 002 | 012 | 006 | 001 | 004 | 005 | 010 | 012 | 002 | | | | | 001 | 001 | | | | | | | | | | | 56 |
| 330-339 | 003 | 004 | 001 | | | 001 | 002 | 003 | | | | | | | | | | | | | | | | | | 14 |
| 340-349 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 350-359 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| | | 324 | | 219 | | 230 | | 264 | | 150 | | 61 | | 16 | | 5 | | 0 | | 0 | | 0 | | 0 | | 2485 |
| | 101 | | 329 | | 226 | | 210 | | 206 | | 138 | | 35 | | 18 | | 3 | | 0 | | 0 | | 0 | | 0 | |

NUMBER OF ZERO RATES 14



JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J14 050M 8200 144/78 9
SCALE
25 KM
N
153
152
151
150
149
148
147
146

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

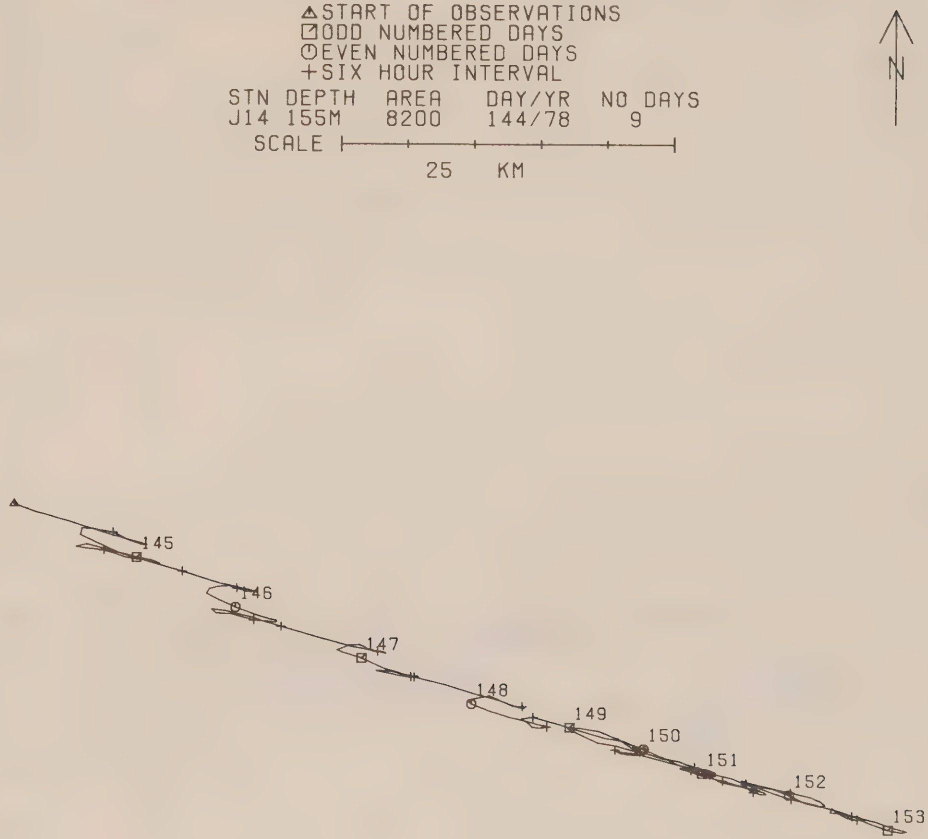
STN J14 DEPTH 155 JOHNSTONE ST. 50 27.7 N 126 3.7 W LENGTH OF RECORD= 9 DAYS
START OF RECORD 27 MN 13 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 002 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 10- 19 | 002 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 20- 29 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 30- 39 | 001 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 40- 49 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 50- 59 | 001 | 002 | | 001 | | | | | | | | | | | | | | | | | | | | | | 4 |
| 60- 69 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 70- 79 | 002 | 002 | 003 | 001 | 002 | 003 | 001 | 001 | | | | | | | | | | | | | | | | | | 15 |
| 80- 89 | 002 | 009 | 005 | 005 | 005 | 011 | 001 | | | | | | | | | | | | | | | | | | | 38 |
| 90- 99 | | 014 | 030 | 017 | 016 | 026 | 016 | 022 | 010 | 006 | 005 | | | | | | | | | | | | | | | 162 |
| 100-109 | 005 | 019 | 024 | 040 | 057 | 059 | 068 | 093 | 106 | 078 | 056 | 033 | 039 | 015 | 025 | 028 | 020 | | | | | | | | | 765 |
| 110-119 | 001 | 021 | 014 | 012 | 009 | 021 | 025 | 029 | 045 | 035 | 015 | 002 | | 001 | | 004 | 001 | | | | | | | | | 235 |
| 120-129 | 005 | 017 | 011 | 012 | 008 | 003 | 003 | 003 | 002 | | | | | | | | | | | | | | | | | 64 |
| 130-139 | 005 | 011 | 014 | 003 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 35 |
| 140-149 | 007 | 011 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | 24 |
| 150-159 | 005 | 004 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 12 |
| 160-169 | 001 | 004 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 7 |
| 170-179 | 002 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 6 |
| 180-189 | 003 | 003 | 001 | 003 | | | | | | | | | | | | | | | | | | | | | | 10 |
| 190-199 | 004 | 004 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 12 |
| 200-209 | 005 | 004 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | 12 |
| 210-219 | 005 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 220-229 | 003 | 005 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 10 |
| 230-239 | 004 | 003 | 001 | 002 | 001 | 004 | | | | | | | | | | | | | | | | | | | | 15 |
| 240-249 | 001 | 011 | 005 | 002 | 005 | 006 | 001 | | | | | | | | | | | | | | | | | | | 31 |
| 250-259 | 003 | 007 | 025 | 005 | 005 | 010 | 004 | | | | | | | | | | | | | | | | | | | 59 |
| 260-269 | 005 | 018 | 030 | 050 | 029 | 020 | 011 | 009 | 002 | | | | | | | | | | | | | | | | | 174 |
| 270-279 | 001 | 009 | 021 | 043 | 051 | 038 | 021 | 011 | 013 | 005 | 001 | 001 | | | | | | | | | | | | | | 215 |
| 280-289 | | 003 | 021 | 028 | 028 | 020 | 031 | 029 | 024 | 022 | 006 | 004 | 004 | 001 | | | | | | | | | | | | 221 |
| 290-299 | 003 | 007 | 012 | 015 | 013 | 011 | 017 | 024 | 019 | 011 | 004 | 001 | | | | | | | | | | | | | | 137 |
| 300-309 | 001 | 006 | 011 | 009 | 013 | 007 | 010 | 009 | 004 | 001 | 003 | 001 | 001 | | | | | | | | | | | | | 76 |
| 310-319 | 001 | 004 | 006 | 006 | 015 | 007 | 001 | 002 | 001 | | 001 | | | | | | | | | | | | | | | 44 |
| 320-329 | 002 | 004 | 012 | 004 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 25 |
| 330-339 | | 005 | 007 | 003 | | | | | | | | | | | | | | | | | | | | | | 15 |
| 340-349 | 003 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 350-359 | 001 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| | 93 | 243 | 271 | 269 | 262 | 248 | 210 | 232 | 226 | 158 | 91 | 42 | 44 | 17 | 25 | 32 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2484 |

NUMBER OF ZERO RATES 16

# JOHNSTONE STRAIT
## PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

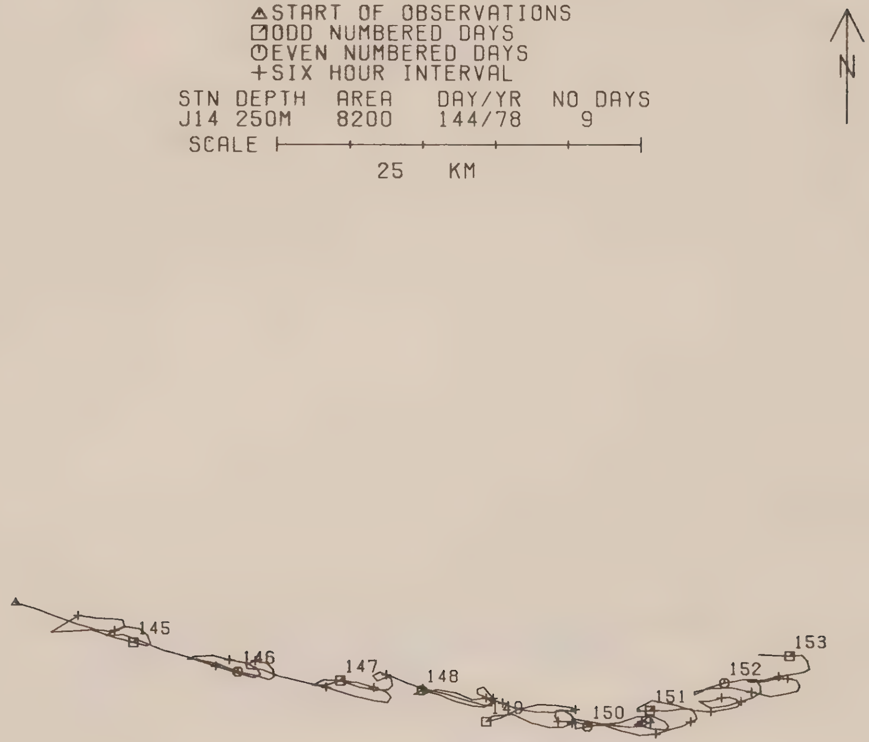
STN J14 DEPTH 250 JOHNSTONE ST. 50 27.7 N 126 3.7 W LENGTH OF RECORD= 9 DAYS
START OF RECORD 22 MN 13 HR 24 DY 05 MO 78 YR RATE OF OBSER.= 8 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 001 | 010 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | 18 |
| 10- 19 | | 005 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 9 |
| 20- 29 | 003 | 007 | 005 | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 30- 39 | 003 | 006 | 005 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | 19 |
| 40- 49 | 001 | 004 | 005 | 004 | | | 001 | | | | | | | | | | | | | | | | | | | 15 |
| 50- 59 | | 009 | 009 | 011 | 004 | 001 | 001 | | | | | | | | | | | | | | | | | | | 35 |
| 60- 69 | 003 | 008 | 017 | 022 | 015 | 007 | 006 | 002 | | | | | | | | | | | | | | | | | | 80 |
| 70- 79 | 002 | 004 | 011 | 023 | 014 | 030 | 025 | 008 | 002 | 002 | | | | | | | | | | | | | | | | 121 |
| 80- 89 | | 004 | 004 | 007 | 014 | 030 | 022 | 017 | 004 | 004 | 004 | 003 | | | | | | | | | | | | | | 113 |
| 90- 99 | | 003 | 004 | 005 | 014 | 024 | 028 | 029 | 007 | 004 | | 003 | | | | | | | | | | | | | | 121 |
| 100-109 | 002 | | 001 | 005 | 014 | 021 | 040 | 038 | 056 | 015 | 018 | 009 | 008 | 002 | | | | | | | | | | | | 229 |
| 110-119 | 001 | | 001 | | 008 | 007 | 025 | 028 | 019 | 012 | 006 | | 002 | | 003 | 002 | | | | | | | | | | 114 |
| 120-129 | | | | 001 | | 004 | 002 | 003 | 004 | | | | | | | | | | | | | | | | | 14 |
| 130-139 | | | 002 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | 8 |
| 140-149 | | 001 | | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 4 |
| 150-159 | | 001 | 001 | | 001 | | | | | | | | | | | | | | | | | | | | | 3 |
| 160-169 | | 003 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 170-179 | | 002 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 180-189 | | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 190-199 | | 001 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | | 7 |
| 200-209 | | 002 | 004 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 8 |
| 210-219 | | 001 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | 5 |
| 220-229 | 001 | 002 | 003 | 005 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 14 |
| 230-239 | | | 006 | 005 | 008 | 003 | 002 | 005 | 001 | 003 | | | | | | | | | | | | | | | | 33 |
| 240-249 | | | 005 | 010 | 011 | 005 | 006 | 008 | 007 | 003 | | | | | | | | | | | | | | | | 55 |
| 250-259 | 001 | 001 | 004 | 018 | 019 | 013 | 009 | 012 | 008 | 002 | | | | | | | | | | | | | | | | 87 |
| 260-269 | 001 | 001 | 007 | 006 | 026 | 023 | 012 | 007 | 005 | 003 | 001 | | | | | | | | | | | | | | | 92 |
| 270-279 | 001 | 001 | 008 | 011 | 014 | 019 | 010 | 011 | 003 | | | | | | | | | | | | | | | | | 78 |
| 280-289 | 001 | 003 | 009 | 014 | 009 | 011 | 009 | 011 | 005 | 002 | 002 | | | | | | | | | | | | | | | 76 |
| 290-299 | | 005 | 008 | 013 | 009 | 012 | 004 | 005 | 004 | | 001 | | | | | | | | | | | | | | | 61 |
| 300-309 | 001 | 007 | 008 | 018 | 006 | | | 001 | | | | | | | | | | | | | | | | | | 41 |
| 310-319 | 002 | 002 | 013 | 011 | 003 | 001 | | | | | | | | | | | | | | | | | | | | 32 |
| 320-329 | 001 | 008 | 016 | 017 | 005 | 002 | 001 | | | | | | | | | | | | | | | | | | | 50 |
| 330-339 | 001 | 004 | 019 | 010 | 006 | | | | | | | | | | | | | | | | | | | | | 40 |
| 340-349 | 001 | 010 | 013 | 013 | 002 | | | | | | | | | | | | | | | | | | | | | 39 |
| 350-359 | 002 | 005 | 013 | 004 | | | | | | | | | | | | | | | | | | | | | | 24 |
| | 29 | 121 | 218 | 249 | 210 | 214 | 203 | 185 | 125 | 50 | 32 | 15 | 10 | 2 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1668 |

NUMBER OF ZERO RATES 2

# JOHNSTONE STRAIT
# PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J14 DEPTH 250 JOHNSTONE ST. 50 27.7 N 126 3.7 W LENGTH OF RECORD= 9 DAYS

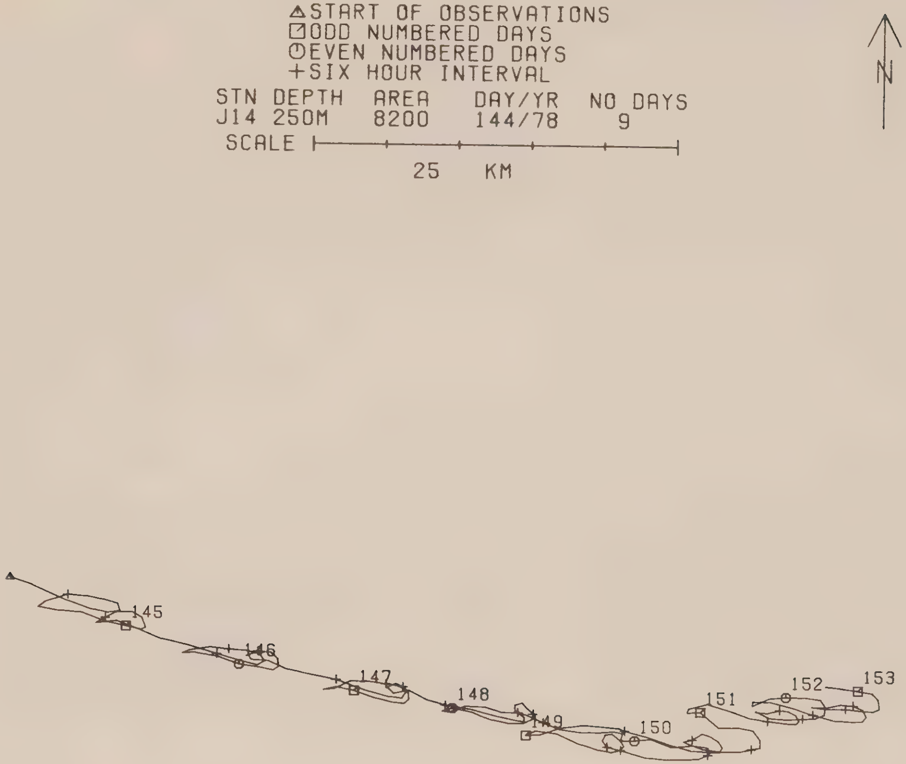
START OF RECORD 27 MN 13 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 002 | 007 | 012 | 009 | | | | | | | | | | | | | | | | | | | | | | 30 |
| 10- 19 | | 009 | 011 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | 25 |
| 20- 29 | 001 | 006 | 015 | 004 | | | | | | | | | | | | | | | | | | | | | | 26 |
| 30- 39 | | 010 | 003 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | 16 |
| 40- 49 | | 015 | 009 | 007 | 004 | | | | | | | | | | | | | | | | | | | | | 35 |
| 50- 59 | 001 | 013 | 009 | 009 | 001 | 001 | | 001 | | | | | | | | | | | | | | | | | | 35 |
| 60- 69 | | 009 | 013 | 009 | 014 | 002 | | 002 | | | | | | | | | | | | | | | | | | 49 |
| 70- 79 | 002 | 010 | 018 | 013 | 023 | 025 | 005 | 003 | 005 | | | | | | | | | | | | | | | | | 104 |
| 80- 89 | 001 | 003 | 008 | 017 | 033 | 026 | 029 | 031 | 007 | 002 | 003 | 001 | | | | | | | | | | | | | | 161 |
| 90- 99 | | 002 | 006 | 013 | 024 | 044 | 083 | 069 | 041 | 023 | 015 | 005 | | | | | | | | | | | | | | 325 |
| 100-109 | | 002 | 002 | 006 | 006 | 033 | 055 | 086 | 072 | 051 | 027 | 014 | 016 | 001 | 001 | | | | | | | | | | | 372 |
| 110-119 | | 001 | 002 | | 007 | 019 | 014 | 036 | 050 | 022 | 009 | 003 | 004 | 004 | 004 | 002 | 002 | | | | | | | | | 179 |
| 120-129 | | 001 | 001 | 002 | | 003 | 001 | 007 | 009 | 005 | | | | | | | | | | | | | | | | 29 |
| 130-139 | | 001 | 002 | 002 | 006 | 002 | | | | | | | | | | | | | | | | | | | | 13 |
| 140-149 | | | 001 | | 001 | 003 | | | | | | | | | | | | | | | | | | | | 5 |
| 150-159 | | 001 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 4 |
| 160-169 | | | 001 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 170-179 | | | 002 | | 001 | | | | | | | | | | | | | | | | | | | | | 3 |
| 180-189 | | 002 | 005 | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 190-199 | | 001 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | | 5 |
| 200-209 | | 001 | 002 | | 001 | | | | | | | | | | | | | | | | | | | | | 4 |
| 210-219 | 001 | 004 | 009 | 002 | 004 | | | | | | | | | | | | | | | | | | | | | 20 |
| 220-229 | | 001 | 008 | 005 | 004 | 002 | | | | | | | | | | | | | | | | | | | | 20 |
| 230-239 | | | 004 | 004 | 006 | 006 | 002 | 003 | | | | | | | | | | | | | | | | | | 25 |
| 240-249 | | | 003 | 009 | 011 | 015 | 007 | 013 | 009 | 005 | 001 | | | | | | | | | | | | | | | 73 |
| 250-259 | | | 007 | 008 | 016 | 024 | 010 | 011 | 013 | 008 | 004 | | | | | | | | | | | | | | | 101 |
| 260-269 | | | 003 | 012 | 014 | 029 | 023 | 026 | 018 | 007 | 003 | | | | | | | | | | | | | | | 135 |
| 270-279 | | 002 | 005 | 013 | 022 | 037 | 033 | 016 | 022 | 006 | | | | | | | | | | | | | | | | 156 |
| 280-289 | 002 | 001 | 014 | 008 | 028 | 020 | 020 | 015 | 017 | 013 | | | | | | | | | | | | | | | | 138 |
| 290-299 | | 003 | 012 | 027 | 024 | 005 | 003 | 003 | 001 | 001 | | | | | | | | | | | | | | | | 79 |
| 300-309 | 001 | 001 | 020 | 027 | 015 | 004 | | | | | 002 | | | | | | | | | | | | | | | 70 |
| 310-319 | | 002 | 016 | 015 | 009 | 001 | | | | 001 | 001 | 001 | | 001 | | | | | | | | | | | | 47 |
| 320-329 | | 009 | 016 | 017 | 008 | 006 | 001 | | | 002 | 001 | 001 | 002 | | | | | | | | | | | | | 63 |
| 330-339 | 002 | 008 | 019 | 024 | 012 | 001 | 001 | | | | | | | | | | | | | | | | | | | 67 |
| 340-349 | | 007 | 012 | 009 | 005 | | 001 | | | | | | | | | | | | | | | | | | | 34 |
| 350-359 | | 006 | 008 | 027 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 44 |
| | 13 | 138 | 282 | 305 | 305 | 309 | 288 | 322 | 264 | 146 | 66 | 25 | 22 | 6 | 5 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2500 |

NUMBER OF ZERO RATES 0

# JOHNSTONE STRAIT
# PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J15 DEPTH 055 JOHNSTONE ST. 50 27.3 N 126 4.1 W LENGTH OF RECORD= 9 DAYS

START OF RECORD 12 MN 14 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 001 | 003 | | | | 001 | | | | | | | | | | | | | | | | | | | | 5 |
| 10- 19 | 003 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 20- 29 | | 006 | 002 | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 30- 39 | 001 | 010 | 004 | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 40- 49 | 002 | 010 | 002 | 004 | | | | | | | | | | | | | | | | | | | | | | 18 |
| 50- 59 | 003 | 006 | 007 | 005 | 001 | | | | | | | | | | | | | | | | | | | | | 22 |
| 60- 69 | 003 | 008 | 029 | 017 | 005 | | | | | | | | | | | | | | | | | | | | | 62 |
| 70- 79 | 005 | 016 | 019 | 014 | 005 | | | | | | | | | | | | | | | | | | | | | 59 |
| 80- 89 | 003 | 009 | 025 | 008 | 002 | 001 | 002 | | | | | | | | | | | | | | | | | | | 50 |
| 90- 99 | 002 | 016 | 025 | 012 | 010 | 015 | 005 | 002 | | | | | | | | | | | | | | | | | | 87 |
| 100-109 | 006 | 011 | 028 | 027 | 028 | 037 | 026 | 002 | 001 | | | | | | | | | | | | | | | | | 166 |
| 110-119 | 003 | 012 | 021 | 022 | 026 | 030 | 022 | 020 | 025 | 014 | | | | | | | | | | | | | | | | 195 |
| 120-129 | 005 | 012 | 022 | 009 | 027 | 029 | 017 | 014 | 010 | 004 | | | | | | | | | | | | | | | | 149 |
| 130-139 | 001 | 017 | 018 | 008 | 012 | 014 | 008 | | | | | | | | | | | | | | | | | | | 78 |
| 140-149 | 007 | 020 | 006 | 011 | 011 | 002 | 003 | | | | | | | | | | | | | | | | | | | 60 |
| 150-159 | 002 | 011 | 009 | 012 | 008 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | | 46 |
| 160-169 | 003 | 003 | 009 | 007 | 004 | 004 | | | | | | | | | | | | | | | | | | | | 30 |
| 170-179 | 003 | 003 | 003 | 002 | 002 | 006 | 004 | | | | | | | | | | | | | | | | | | | 23 |
| 180-189 | 002 | 012 | 008 | 002 | 002 | 008 | | | | | | | | | | | | | | | | | | | | 34 |
| 190-199 | 007 | 009 | 007 | 005 | 008 | 005 | 001 | | | | | | | | | | | | | | | | | | | 42 |
| 200-209 | 005 | 003 | 004 | 003 | 003 | 007 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | 29 |
| 210-219 | 002 | 005 | 004 | 007 | 008 | 003 | 003 | 002 | | | | | | | | | | | | | | | | | | 34 |
| 220-229 | 003 | 004 | 007 | 004 | 011 | 009 | 006 | 001 | | | | | | | | | | | | | | | | | | 45 |
| 230-239 | 004 | 006 | 007 | 006 | 014 | 013 | 004 | 007 | | 001 | 002 | | | | | | | | | | | | | | | 64 |
| 240-249 | 004 | 010 | 005 | 008 | 009 | 013 | 006 | 002 | 005 | 001 | 001 | 002 | | | | | | | | | | | | | | 66 |
| 250-259 | 002 | 008 | 007 | 003 | 009 | 006 | 010 | 016 | 008 | 002 | 004 | 001 | | | 001 | | | | | | | | | | | 77 |
| 260-269 | 004 | 005 | 006 | 002 | 001 | 007 | 013 | 020 | 013 | 014 | 004 | 003 | 002 | | 001 | | | | | | | | | | | 95 |
| 270-279 | 001 | 005 | 006 | 005 | 005 | 009 | 010 | 025 | 022 | 020 | 007 | 010 | 002 | | | | | | | | | | | | | 127 |
| 280-289 | 005 | 005 | 007 | 011 | 018 | 031 | 027 | 033 | 024 | 016 | 012 | 008 | 003 | | | | | | | | | | | | | 200 |
| 290-299 | 003 | 004 | 010 | 022 | 035 | 029 | 030 | 023 | 024 | 012 | 014 | 006 | 001 | | | | | | | | | | | | | 213 |
| 300-309 | 001 | 004 | 014 | 021 | 029 | 031 | 032 | 030 | 010 | 022 | 015 | 018 | 002 | | | | | | | | | | | | | 229 |
| 310-319 | 003 | 008 | 007 | 010 | 008 | 007 | 007 | 006 | 005 | 010 | 007 | 001 | | | | | | | | | | | | | | 79 |
| 320-329 | 003 | 009 | 008 | 004 | 003 | 001 | | 003 | 002 | 001 | 001 | | | | | | | | | | | | | | | 35 |
| 330-339 | 001 | 010 | 004 | | 001 | | | | | | | | | | | | | | | | | | | | | 16 |
| 340-349 | 001 | 004 | 004 | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 350-359 | 001 | 009 | 003 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| | | 301 | | 271 | | 320 | | 208 | | 117 | | 49 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 2491 |
| | 105 | | 347 | | 305 | | 239 | | 150 | | 67 | | 10 | | 2 | | 0 | | 0 | | 0 | | 0 | | 0 | |

NUMBER OF ZERO RATES 3

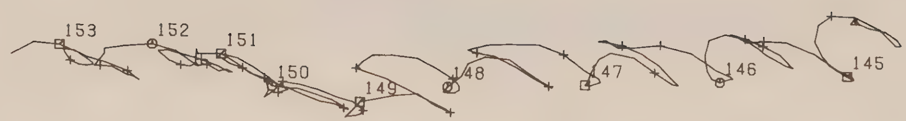
JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM

△START OF OBSERVATIONS
☐ODD NUMBERED DAYS
○EVEN NUMBERED DAYS
+SIX HOUR INTERVAL

| STN | DEPTH | AREA | DAY/YR | NO DAYS |
|---|---|---|---|---|
| J15 | 055M | 8200 | 144/78 | 9 |

SCALE 25 KM

N



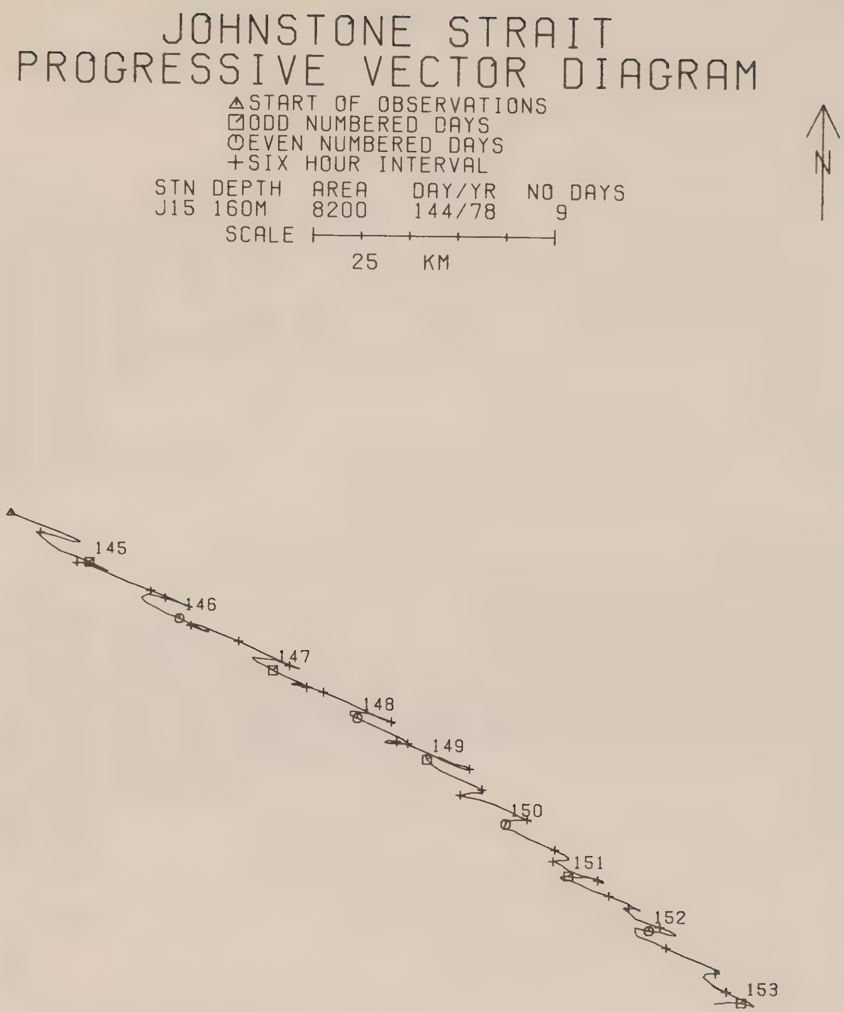
FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

STN J15 DEPTH 160 JOHNSTONE ST. 50 27.3 N 126 4.1 W LENGTH OF RECORD= 9 DAYS
START OF RECORD 12 MN 14 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 10- 19 | 001 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 20- 29 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 30- 39 | 001 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 40- 49 | 004 | 005 | 004 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 50- 59 | 002 | 003 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 8 |
| 60- 69 | 004 | 004 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | | 17 |
| 70- 79 | 001 | 006 | 011 | 005 | | | | | | | | | | | | | | | | | | | | | | 23 |
| 80- 89 | 002 | 010 | 006 | 010 | 004 | | | | | | | | | | | | | | | | | | | | | 32 |
| 90- 99 | 003 | 006 | 014 | 014 | 014 | 014 | 008 | 003 | | | | | | | | | | | | | | | | | | 76 |
| 100-109 | 002 | 006 | 022 | 019 | 023 | 035 | 035 | 036 | 036 | 014 | 017 | 015 | 008 | 004 | 003 | 006 | 002 | | | | | | | | | 283 |
| 110-119 | 004 | 005 | 017 | 025 | 048 | 066 | 083 | 122 | 101 | 062 | 043 | 023 | 033 | 018 | 020 | 006 | 009 | 004 | | | | | | | | 689 |
| 120-129 | 002 | 028 | 021 | 028 | 030 | 041 | 020 | 021 | 009 | 015 | 003 | 001 | | | | | | | | | | | | | | 219 |
| 130-139 | 002 | 009 | 016 | 007 | 011 | 014 | 007 | 001 | | | | | | | | | | | | | | | | | | 67 |
| 140-149 | 003 | 008 | 011 | 009 | 008 | 003 | | | | | | | | | | | | | | | | | | | | 42 |
| 150-159 | 001 | 016 | 002 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | 25 |
| 160-169 | 002 | 011 | 003 | 001 | 003 | 001 | | | | | | | | | | | | | | | | | | | | 21 |
| 170-179 | 003 | 007 | 004 | 004 | 004 | | | | | | | | | | | | | | | | | | | | | 22 |
| 180-189 | 001 | 004 | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | 11 |
| 190-199 | 004 | 010 | 004 | 002 | 001 | | | | | | | | | | | | | | | | | | | | | 21 |
| 200-209 | 002 | 004 | 010 | 001 | | | | | | | | | | | | | | | | | | | | | | 17 |
| 210-219 | 002 | 001 | 004 | 003 | 001 | | | | | | | | | | | | | | | | | | | | | 11 |
| 220-229 | 005 | 003 | 005 | 002 | 001 | | 001 | | | | | | | | | | | | | | | | | | | 17 |
| 230-239 | 005 | 007 | 008 | 004 | 003 | 003 | | 001 | | 001 | | | | | | | | | | | | | | | | 32 |
| 240-249 | 002 | 010 | 011 | 003 | 001 | 001 | | | | | | | | | | | | | | | | | | | | 28 |
| 250-259 | 002 | 011 | 025 | 014 | 012 | 004 | 002 | 001 | | 003 | 001 | | | | | | | | | | | | | | | 75 |
| 260-269 | 002 | 010 | 013 | 032 | 033 | 010 | 012 | 005 | 002 | 001 | | 001 | 001 | 002 | | | | | | | | | | | | 124 |
| 270-279 | 006 | 009 | 025 | 045 | 030 | 027 | 019 | 016 | 014 | 003 | 003 | 006 | | | | | | | | | | | | | | 203 |
| 280-289 | 002 | 009 | 017 | 021 | 027 | 023 | 016 | 015 | 014 | 015 | 009 | 005 | 003 | 002 | | | | | | | | | | | | 178 |
| 290-299 | 005 | 012 | 016 | 010 | 009 | 016 | 007 | 014 | 007 | 006 | 003 | 003 | | 002 | 002 | 001 | | | | | | | | | | 113 |
| 300-309 | 003 | 007 | 008 | 007 | 006 | 002 | 004 | 006 | 004 | 001 | 002 | | | | | | | | | | | | | | | 50 |
| 310-319 | 004 | 003 | 004 | 001 | 001 | 001 | 001 | | | 001 | | | | | | | | | | | | | | | | 16 |
| 320-329 | 002 | 003 | 007 | 001 | | | | | | | | | | | | | | | | | | | | | | 13 |
| 330-339 | 004 | 010 | 002 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 340-349 | 002 | 004 | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 350-359 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| | 95 | 251 | 304 | 277 | 272 | 261 | 215 | 241 | 187 | 122 | 81 | 54 | 45 | 28 | 25 | 13 | 11 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2486 |

NUMBER OF ZERO RATES 8


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J15 160M 8200 144/78 9
SCALE
25 KM
N
145
146
147
148
149
150
151
152
153

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

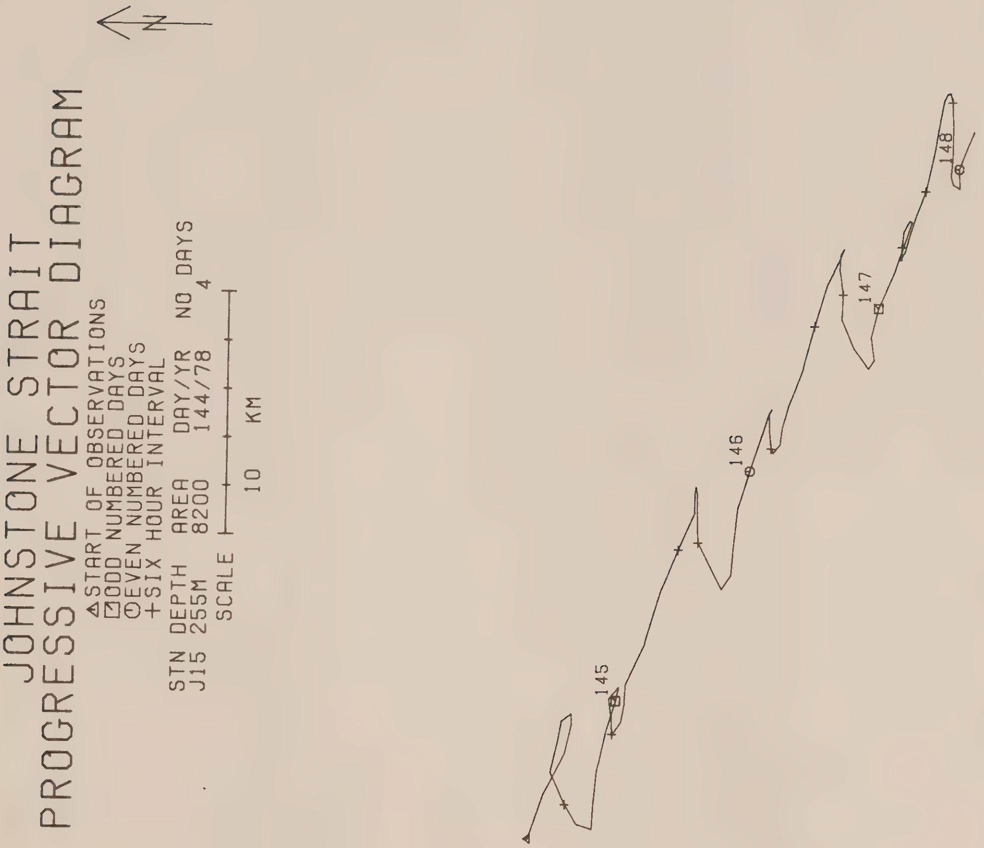
STN J15 DEPTH 255 JOHNSTONE ST. 50 27.3 N 126 4.1 W LENGTH OF RECORD= 8 DAYS

START OF RECORD 12 MN 14 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 005 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 10- 19 | 003 | 003 | 001 | | | 002 | | | | | | | | | | | | | | | | | | | | 9 |
| 20- 29 | 003 | | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | 5 |
| 30- 39 | 002 | | | | | | 002 | | | | | | | | | | | | | | | | | | | 4 |
| 40- 49 | 002 | | | | | 001 | | | | | | | | | | | | | | | | | | | | 3 |
| 50- 59 | 003 | 001 | | | 002 | | 002 | | | | | | | | | | | | | | | | | | | 8 |
| 60- 69 | 003 | 005 | | 003 | 004 | 009 | 001 | | | | | | | | | | | | | | | | | | | 25 |
| 70- 79 | 001 | 007 | 007 | 005 | 013 | 002 | 004 | | | | | | | | | | | | | | | | | | | 39 |
| 80- 89 | 005 | 017 | 015 | 020 | 020 | 019 | 009 | 005 | 003 | | | | | | | | | | | | | | | | | 113 |
| 90- 99 | 001 | 014 | 019 | 025 | 043 | 040 | 042 | 016 | 027 | 009 | 005 | 001 | | | | | | | | | | | | | | 242 |
| 100-109 | | 008 | 016 | 017 | 047 | 059 | 056 | 049 | 050 | 043 | 011 | 008 | 008 | 006 | 003 | | | | | | | | | | | 381 |
| 110-119 | 001 | 014 | 010 | 019 | 038 | 016 | 018 | 032 | 046 | 019 | 016 | 009 | 004 | 003 | 001 | | | | | | | | | | | 246 |
| 120-129 | 002 | 014 | 017 | 032 | 022 | 015 | 010 | 006 | 017 | 001 | 002 | 001 | | | | | | | | | | | | | | 139 |
| 130-139 | 006 | 005 | 018 | 022 | 005 | 002 | 001 | 002 | 001 | | | | | | | | | | | | | | | | | 62 |
| 140-149 | 003 | 013 | 007 | 002 | 007 | 003 | 003 | | | | | | | | | | | | | | | | | | | 38 |
| 150-159 | 002 | 007 | 001 | 002 | | 003 | | | | | | | | | | | | | | | | | | | | 15 |
| 160-169 | | 001 | 003 | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 170-179 | | | 001 | | 002 | | | | | | | | | | | | | | | | | | | | | 3 |
| 180-189 | | 002 | 002 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | 7 |
| 190-199 | | 001 | 001 | | | 001 | | | | | | | | | | | | | | | | | | | | 3 |
| 200-209 | 001 | | 002 | | | 001 | 004 | | | | | | | | | | | | | | | | | | | 8 |
| 210-219 | 003 | 002 | 003 | 003 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | | | 15 |
| 220-229 | | 006 | 007 | 015 | 004 | 002 | 001 | | | | | | | | | | | | | | | | | | | 35 |
| 230-239 | | 008 | 005 | 007 | 005 | 003 | 009 | 007 | | | | | | | | | | | | | | | | | | 44 |
| 240-249 | | 005 | 009 | 005 | 005 | 004 | 010 | 006 | 007 | 002 | 002 | | | | | | | | | | | | | | | 55 |
| 250-259 | 004 | 012 | 014 | 014 | 025 | 009 | 006 | 002 | | 001 | 001 | | 001 | | | | | | | | | | | | | 89 |
| 260-269 | 005 | 009 | 025 | 039 | 031 | 009 | 019 | 004 | 001 | | | | | | | | | | | | | | | | | 142 |
| 270-279 | 003 | 006 | 023 | 021 | 038 | 023 | 006 | 003 | 002 | 001 | | 001 | | | | | | | | | | | | | | 127 |
| 280-289 | 003 | 007 | 022 | 018 | 021 | 010 | 004 | 001 | 004 | 002 | 003 | | | | | | | | | | | | | | | 95 |
| 290-299 | 002 | 007 | 025 | 011 | 012 | 005 | 008 | | 001 | 002 | | | | | | | | | | | | | | | | 73 |
| 300-309 | 003 | 009 | 023 | 014 | 001 | | | | | | | | | | | | | | | | | | | | | 50 |
| 310-319 | 001 | 011 | 017 | 008 | 002 | | | | | | | | | | | | | | | | | | | | | 39 |
| 320-329 | 002 | 012 | 024 | 014 | 001 | | | | | | | | | | | | | | | | | | | | | 53 |
| 330-339 | 003 | 009 | 013 | 002 | | | | | | | | | | | | | | | | | | | | | | 27 |
| 340-349 | 001 | 007 | 006 | 001 | | | | | | | | | | | | | | | | | | | | | | 15 |
| 350-359 | 005 | 007 | 002 | | | | | | | | | | | | | | | | | | | | | | | 14 |
| | | 231 | | 320 | | 240 | | 133 | | 80 | | 20 | | 9 | | 0 | | 0 | | 0 | | 0 | | 0 | | 2234 |
| | 78 | | 338 | | 353 | | 216 | | 159 | | 40 | | 13 | | 4 | | 0 | | 0 | | 0 | | 0 | | 0 | |

NUMBER OF ZERO RATES 19


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
△START OF OBSERVATIONS
☒ODD NUMBERED DAYS
⊙EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J15 255M 8200 144/78 4
SCALE
10 KM
N
145
146
147
148

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

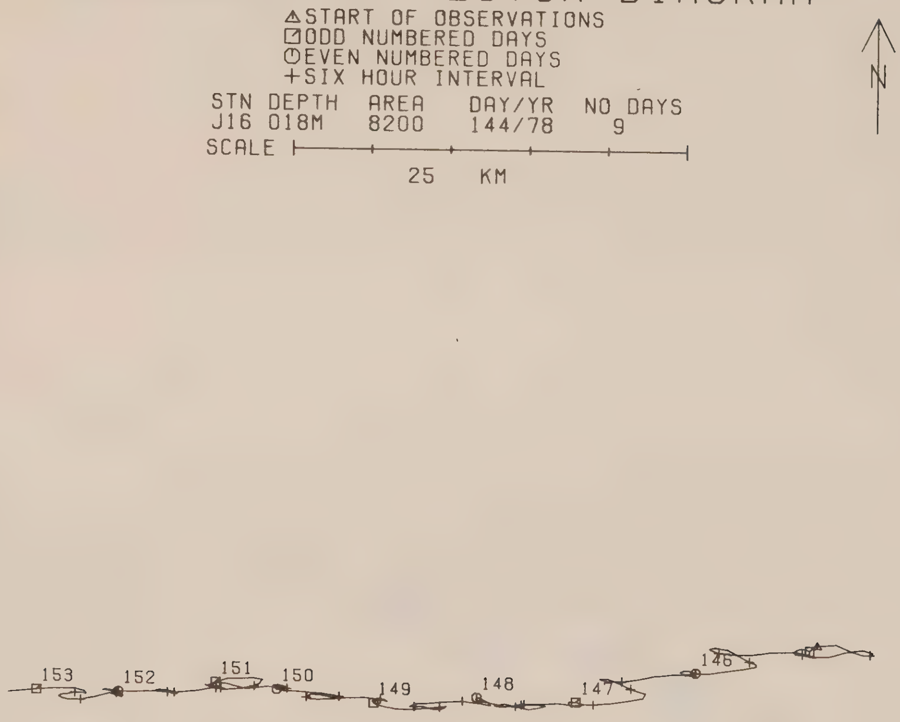
STN J16 DEPTH 018 JOHNSTONE ST. 50 27.5 N 125 57.6 W LENGTH OF RECORD= 9 DAYS
START OF RECORD 47 MN 10 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 001 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 10- 19 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 20- 29 | 001 | | 001 | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 30- 39 | 007 | 008 | 001 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 40- 49 | 007 | 009 | | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 50- 59 | 006 | 012 | 002 | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 60- 69 | 009 | 040 | 016 | | | | | | | | | | | | | | | | | | | | | | | 65 |
| 70- 79 | 007 | 088 | 049 | 014 | 006 | | 003 | | | | | | | | | | | | | | | | | | | 167 |
| 80- 89 | 016 | 036 | 048 | 016 | 006 | 003 | 001 | | | | | | | | | | | | | | | | | | | 126 |
| 90- 99 | 010 | 017 | 045 | 028 | 011 | 006 | 002 | 001 | | | | | | | | | | | | | | | | | | 120 |
| 100-109 | 005 | 022 | 071 | 037 | 029 | 010 | 001 | 002 | | | | | | | | | | | | | | | | | | 177 |
| 110-119 | 011 | 044 | 026 | 010 | 017 | 018 | 002 | | | | | | | | | | | | | | | | | | | 128 |
| 120-129 | 015 | 018 | 006 | 003 | 007 | 011 | | | | | | | | | | | | | | | | | | | | 60 |
| 130-139 | 016 | 003 | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 21 |
| 140-149 | 016 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 19 |
| 150-159 | 013 | 010 | 005 | | | | | | | | | | | | | | | | | | | | | | | 28 |
| 160-169 | | 004 | 002 | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 170-179 | 001 | 003 | 003 | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 180-189 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 190-199 | 001 | 002 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 200-209 | 003 | | 002 | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 210-219 | | 002 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 220-229 | | | 002 | 001 | | | | | | | | | | | | | | | | | | | | | | 3 |
| 230-239 | 003 | 002 | 001 | 001 | | | | | | | | | | | | | | | | | | | | | | 7 |
| 240-249 | 005 | 014 | 010 | 009 | 002 | 005 | 003 | | | | | | | | | | | | | | | | | | | 48 |
| 250-259 | 004 | 020 | 020 | 009 | 018 | 019 | 025 | 003 | | | | | | | | | | | | | | | | | | 118 |
| 260-269 | 006 | 026 | 031 | 046 | 107 | 107 | 145 | 026 | 009 | 002 | | | | | | | | | | | | | | | | 505 |
| 270-279 | 002 | 035 | 064 | 069 | 100 | 069 | 022 | 011 | 001 | | | | | | | | | | | | | | | | | 373 |
| 280-289 | 007 | 045 | 046 | 058 | 038 | 003 | 004 | | | | | | | | | | | | | | | | | | | 201 |
| 290-299 | 009 | 027 | 037 | 011 | 001 | 005 | | | | | | | | | | | | | | | | | | | | 90 |
| 300-309 | 014 | 024 | 013 | 004 | 001 | | | | | | | | | | | | | | | | | | | | | 56 |
| 310-319 | 018 | 013 | 004 | | | | | | | | | | | | | | | | | | | | | | | 35 |
| 320-329 | 008 | 010 | | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 330-339 | 013 | 006 | | | | | | | | | | | | | | | | | | | | | | | | 19 |
| 340-349 | 008 | 008 | | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 350-359 | 005 | 006 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| | 250 | 563 | 505 | 317 | 344 | 256 | 208 | 43 | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2498 |

NUMBER OF ZERO RATES 46

# JOHNSTONE STRAIT
# PROGRESSIVE VECTOR DIAGRAM



FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

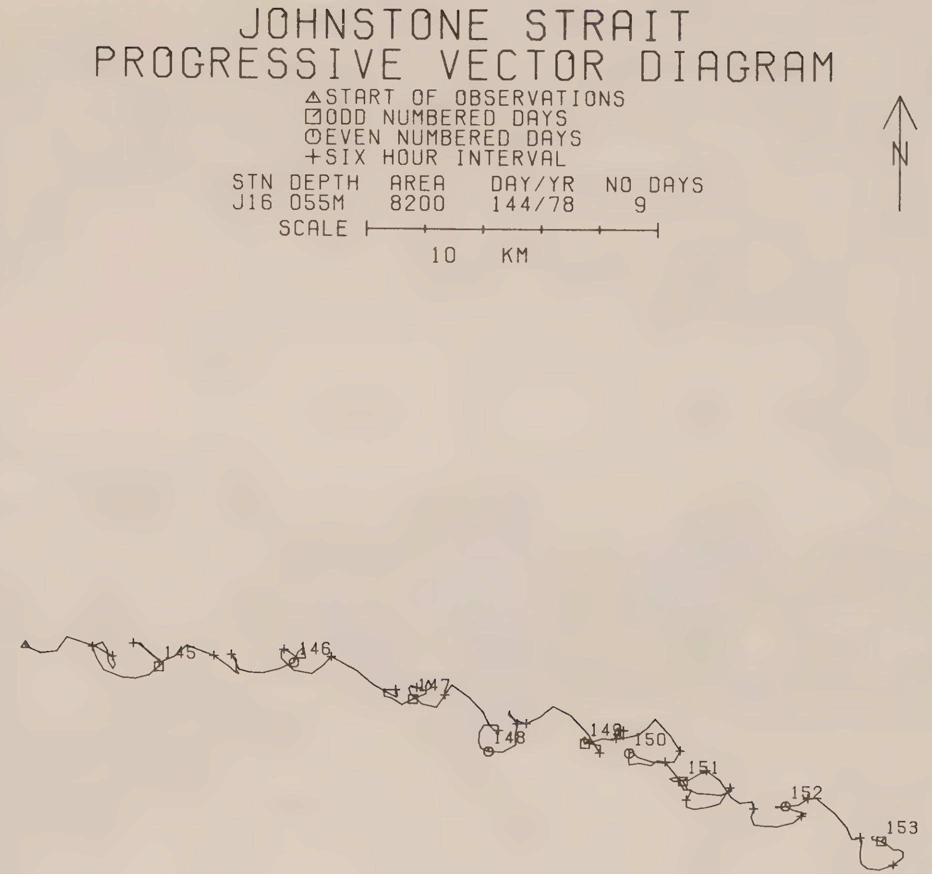
STN J16 DEPTH 055 JOHNSTONE ST. 50 27.5 N 125 57.6 W LENGTH OF RECORD= 9 DAYS

START OF RECORD 47 MN 10 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 009 | 021 | 010 | | | | | | | | | | | | | | | | | | | | | | | 40 |
| 10- 19 | 010 | 038 | 019 | | | | | | | | | | | | | | | | | | | | | | | 67 |
| 20- 29 | 010 | 020 | 020 | 008 | | | | | | | | | | | | | | | | | | | | | | 58 |
| 30- 39 | 004 | 029 | 025 | 009 | | | | | | | | | | | | | | | | | | | | | | 67 |
| 40- 49 | 006 | 028 | 030 | 009 | | | | | | | | | | | | | | | | | | | | | | 73 |
| 50- 59 | 010 | 025 | 033 | 013 | 002 | | | | | | | | | | | | | | | | | | | | | 83 |
| 60- 69 | 011 | 033 | 045 | 025 | 002 | | | | | | | | | | | | | | | | | | | | | 116 |
| 70- 79 | 013 | 039 | 057 | 029 | 001 | | | | | | | | | | | | | | | | | | | | | 139 |
| 80- 89 | 012 | 039 | 051 | 029 | 001 | 002 | | | | | | | | | | | | | | | | | | | | 134 |
| 90- 99 | 017 | 038 | 026 | 016 | 002 | 002 | | | | | | | | | | | | | | | | | | | | 101 |
| 100-109 | 016 | 021 | 031 | 006 | 004 | 002 | 007 | | | | | | | | | | | | | | | | | | | 87 |
| 110-119 | 012 | 019 | 027 | 007 | 006 | 008 | 011 | | | | | | | | | | | | | | | | | | | 90 |
| 120-129 | 014 | 028 | 013 | 013 | 009 | 004 | 003 | | | | | | | | | | | | | | | | | | | 84 |
| 130-139 | 009 | 023 | 032 | 026 | 045 | 013 | 001 | | | | | | | | | | | | | | | | | | | 149 |
| 140-149 | 010 | 031 | 023 | 025 | 031 | 010 | 001 | | | | | | | | | | | | | | | | | | | 131 |
| 150-159 | 013 | 038 | 021 | 011 | 002 | | | | | | | | | | | | | | | | | | | | | 85 |
| 160-169 | 004 | 037 | 025 | 003 | | | | | | | | | | | | | | | | | | | | | | 69 |
| 170-179 | 017 | 041 | 009 | 003 | | | | | | | | | | | | | | | | | | | | | | 70 |
| 180-189 | 009 | 045 | 012 | | | | | | | | | | | | | | | | | | | | | | | 66 |
| 190-199 | 007 | 029 | 012 | | | | | | | | | | | | | | | | | | | | | | | 48 |
| 200-209 | 003 | 019 | 012 | | | | | | | | | | | | | | | | | | | | | | | 34 |
| 210-219 | 007 | 017 | 002 | | | | | | | | | | | | | | | | | | | | | | | 26 |
| 220-229 | 005 | 006 | 003 | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 230-239 | 007 | 007 | 004 | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 240-249 | 006 | 014 | 006 | | 001 | | | | | | | | | | | | | | | | | | | | | 27 |
| 250-259 | 007 | 013 | 008 | 005 | 001 | 002 | | | | | | | | | | | | | | | | | | | | 36 |
| 260-269 | 009 | 026 | 021 | 014 | 008 | | | | | | | | | | | | | | | | | | | | | 78 |
| 270-279 | 014 | 034 | 013 | 001 | | | | | | | | | | | | | | | | | | | | | | 62 |
| 280-289 | 006 | 037 | 009 | 001 | | | | | | | | | | | | | | | | | | | | | | 53 |
| 290-299 | 010 | 038 | 011 | | | | | | | | | | | | | | | | | | | | | | | 59 |
| 300-309 | 005 | 034 | 016 | | | | | | | | | | | | | | | | | | | | | | | 55 |
| 310-319 | 013 | 037 | 008 | | | | | | | | | | | | | | | | | | | | | | | 58 |
| 320-329 | 012 | 030 | 004 | | | | | | | | | | | | | | | | | | | | | | | 46 |
| 330-339 | 010 | 028 | 003 | | | | | | | | | | | | | | | | | | | | | | | 41 |
| 340-349 | 012 | 036 | 006 | | | | | | | | | | | | | | | | | | | | | | | 54 |
| 350-359 | 008 | 038 | 007 | | | | | | | | | | | | | | | | | | | | | | | 53 |
| | | 1036 | | 253 | | 43 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 2471 |
| | 347 | | 654 | | 115 | | 23 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |

NUMBER OF ZERO RATES 72


JOHNSTONE STRAIT
PROGRESSIVE VECTOR DIAGRAM
START OF OBSERVATIONS
ODD NUMBERED DAYS
EVEN NUMBERED DAYS
+SIX HOUR INTERVAL
STN DEPTH AREA DAY/YR NO DAYS
J16 055M 8200 144/78 9
SCALE
10 KM
N
145
146
147
148
149
150
151
152
153

FREQUENCY DISTRIBUTION OF DIRECTION AND RATE

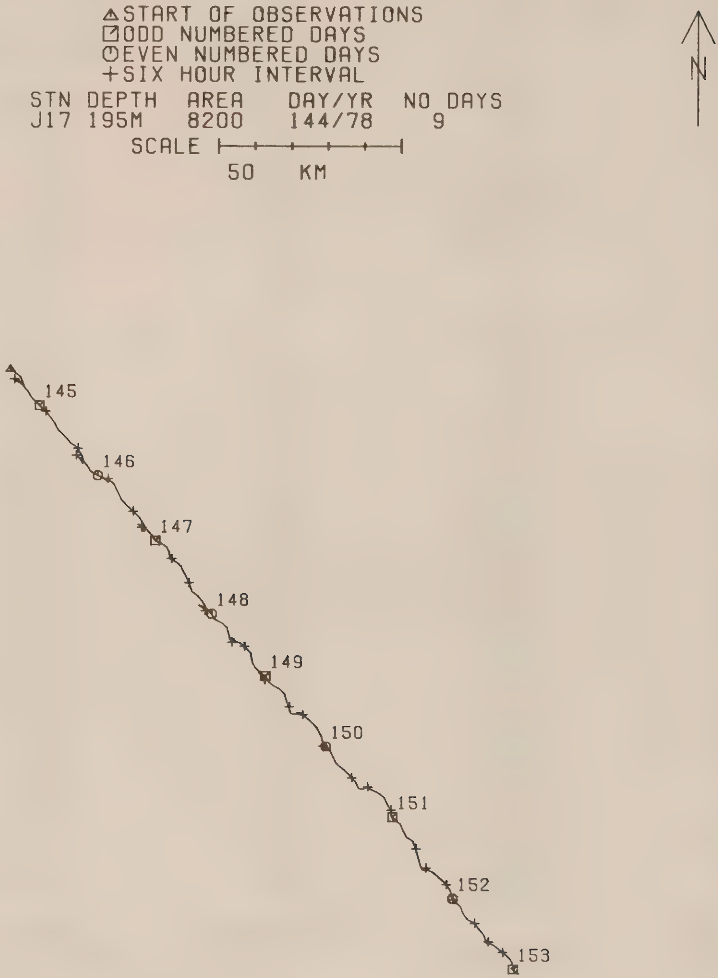
STN J17 DEPTH 195 JOHNSTONE ST. 50 26.3 N 126 0.6 W LENGTH OF RECORD= 9 DAYS
START OF RECORD 37 MN 14 HR 24 DY 5 MO 78 YR RATE OF OBSER.=12 PER HOUR

CMS/SEC

| DIR | 001 TO 004 | 005 TO 009 | 010 TO 014 | 015 TO 019 | 020 TO 024 | 025 TO 029 | 030 TO 034 | 035 TO 039 | 040 TO 044 | 045 TO 049 | 050 TO 054 | 055 TO 059 | 060 TO 064 | 065 TO 069 | 070 TO 074 | 075 TO 079 | 080 TO 084 | 085 TO 089 | 090 TO 094 | 095 TO 099 | 100 TO 104 | 105 TO 109 | 110 TO 114 | 115 TO 119 | 120 TO 124 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0- 9 | 002 | 004 | 005 | 007 | 003 | | | | | | | | | | | | | | | | | | | | | 21 |
| 10- 19 | 003 | 004 | 007 | 006 | 006 | | | | | | | | | | | | | | | | | | | | | 26 |
| 20- 29 | 003 | 002 | 004 | 005 | 004 | 001 | 001 | | | | | | | | | | | | | | | | | | | 20 |
| 30- 39 | | 002 | 008 | 007 | 005 | 001 | | | | | | | | | | | | | | | | | | | | 23 |
| 40- 49 | 002 | 007 | 009 | 004 | 006 | 001 | | | | | | | | | | | | | | | | | | | | 29 |
| 50- 59 | 001 | 002 | 002 | 002 | 002 | 001 | | | | | | | | | | | | | | | | | | | | 10 |
| 60- 69 | 001 | 002 | 005 | 002 | 004 | 001 | | | | | | | | | | | | | | | | | | | | 15 |
| 70- 79 | 002 | 001 | 003 | 004 | 001 | 001 | 002 | 002 | 001 | | | | | | | | | | | | | | | | | 17 |
| 80- 89 | 005 | 006 | 006 | 004 | 003 | 001 | 002 | 005 | | | | | | | | | | | | | | | | | | 32 |
| 90- 99 | | 002 | 006 | 003 | 005 | 008 | 003 | 004 | | | | | | | | | | | | | | | | | | 31 |
| 100-109 | 001 | 004 | 007 | 006 | 005 | 005 | 009 | 014 | 008 | 001 | 002 | 001 | 001 | 001 | | | | | | | | | | | | 65 |
| 110-119 | 001 | 006 | 006 | 005 | 009 | 005 | 015 | 034 | 020 | 020 | 008 | 008 | 012 | 009 | 007 | 002 | 005 | 002 | 002 | | | | | | | 176 |
| 120-129 | | 004 | 003 | 010 | 012 | 021 | 026 | 045 | 063 | 040 | 053 | 026 | 021 | 025 | 011 | 003 | 007 | 001 | | 002 | | | | | | 373 |
| 130-139 | | 002 | 009 | 009 | 019 | 020 | 028 | 039 | 049 | 048 | 037 | 023 | 017 | 017 | 012 | 006 | | 001 | | | | | | | | 336 |
| 140-149 | 002 | 006 | 009 | 006 | 013 | 022 | 021 | 022 | 028 | 035 | 039 | 027 | 015 | 007 | 001 | 004 | 002 | | | | | | | | | 259 |
| 150-159 | | 001 | 010 | 013 | 007 | 016 | 015 | 020 | 020 | 025 | 053 | 044 | 028 | 020 | 012 | 008 | 006 | 004 | 001 | | | | | | | 303 |
| 160-169 | | 004 | 005 | 004 | 005 | 010 | 014 | 010 | 019 | 026 | 024 | 024 | 016 | 017 | 006 | 003 | 006 | 003 | 001 | 001 | | | | | | 198 |
| 170-179 | | 004 | 001 | 002 | 004 | 006 | 007 | 012 | 021 | 022 | 021 | 007 | 008 | 010 | | 001 | 002 | | 003 | | | | | | | 129 |
| 180-189 | | | 001 | 002 | 001 | 002 | 006 | 003 | 006 | 004 | 002 | 001 | 002 | | | | | | | | | | | | | 30 |
| 190-199 | 001 | 001 | 001 | 002 | | 001 | 001 | | | | | | | | | | | | | | | | | | | 7 |
| 200-209 | | | 004 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | 8 |
| 210-219 | | | | 002 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 220-229 | | 003 | 002 | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 230-239 | | | 001 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 240-249 | | | 001 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 250-259 | 001 | 003 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 260-269 | 001 | | | 001 | 001 | | | | | | | | | | | | | | | | | | | | | 3 |
| 270-279 | | 001 | | 001 | | | | | | | | | | | | | | | | | | | | | | 2 |
| 280-289 | | | 002 | 002 | 002 | | | | | | | | | | | | | | | | | | | | | 6 |
| 290-299 | | 001 | 001 | 002 | 003 | 004 | 010 | 009 | 002 | | | | | | | | | | | | | | | | | 32 |
| 300-309 | 002 | 002 | 004 | 008 | 012 | 014 | 007 | 005 | 028 | 001 | | | | | | | | | | | | | | | | 63 |
| 310-319 | 002 | 003 | 009 | 008 | 013 | 006 | 005 | 010 | 006 | 003 | | | | | | | | | | | | | | | | 69 |
| 320-329 | 003 | 006 | 014 | 012 | 010 | 013 | 009 | 010 | 004 | 002 | | | | | | | | | | | | | | | | 83 |
| 330-339 | | 004 | 005 | 003 | 007 | 005 | 003 | 005 | 005 | 001 | | | | | | | | | | | | | | | | 43 |
| 340-349 | | 010 | 006 | 008 | 005 | 001 | | | 001 | | | | | | | | | | | | | | | | | 31 |
| 350-359 | 001 | 006 | 012 | 007 | 009 | 002 | | | | | | | | | | | | | | | | | | | | 37 |
| | 34 | 103 | 168 | 159 | 178 | 168 | 193 | 247 | 261 | 228 | 239 | 161 | 120 | 106 | 49 | 27 | 29 | 11 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 2490 |

NUMBER OF ZERO RATES 14

# JOHNSTONE STRAIT
# PROGRESSIVE VECTOR DIAGRAM



TIDAL CURRENT ELLIPSE

STN J03 DEPTH 020 JOHNSTONE STRAIT 50 28.3 N 126 8.0 W
STARTING TIME OF ANALYSED DATA 5 MIN 17 HR 22 DAY 4 MON 76 YR
LENGTH OF DATA 43 DAYS 0 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 26.4 | .0 | 179.2 | 360.0 |
| MM | 2.5 | -.9 | 161.5 | 247.0 |
| MSF | 1.7 | .6 | 15.0 | 220.8 |
| ALP1 | .9 | .3 | 120.8 | 122.9 |
| 2Q1 | 1.5 | -.1 | 163.0 | 83.1 |
| Q1 | .8 | -.1 | 172.0 | 182.9 |
| O1 | 4.1 | -.6 | 173.8 | 264.1 |
| NO1 | .9 | -.1 | 169.5 | 98.4 |
| K1 | 8.1 | .5 | 178.9 | 267.6 |
| J1 | 1.4 | .4 | 115.1 | 236.0 |
| OO1 | 2.0 | -.6 | 125.7 | 265.9 |
| UPS1 | 1.2 | -.4 | 152.4 | 276.6 |
| EPS2 | .9 | -.3 | 178.7 | 97.9 |
| MU2 | 1.7 | -.4 | 160.5 | 147.5 |
| N2 | 6.0 | -.7 | 169.5 | 168.5 |
| M2 | 25.2 | -.1 | 173.7 | 214.5 |
| L2 | 1.7 | -.4 | 180.0 | 20.2 |
| S2 | 7.1 | -.1 | 178.9 | 216.3 |
| ETA2 | 1.6 | -.7 | 11.6 | 229.2 |
| MO3 | .9 | -.2 | 31.6 | 51.8 |
| M3 | .8 | -.4 | 140.4 | 107.5 |
| MK3 | 1.4 | .8 | 4.1 | 3.1 |
| SK3 | .6 | -.2 | 179.9 | 185.8 |
| MN4 | 1.1 | -.1 | 159.1 | 192.6 |
| M4 | 1.6 | .2 | 158.0 | 217.4 |
| SN4 | .7 | .1 | 2.8 | 130.2 |
| MS4 | .8 | .1 | 152.1 | 237.7 |
| S4 | .5 | -.3 | 171.0 | 142.2 |
| 2MK5 | .5 | -.5 | 169.4 | 173.4 |
| 2SK5 | .5 | -.2 | 123.6 | 82.9 |
| 2MN6 | .3 | -.1 | 53.1 | 333.6 |
| M6 | .4 | .0 | 8.1 | 36.6 |
| 2MS6 | .6 | -.1 | 24.7 | 69.9 |
| 2SM6 | .3 | -.2 | 133.5 | 156.8 |
| 3MK7 | 1.0 | -.6 | 53.4 | 76.7 |
| M8 | .2 | -.1 | 37.6 | 205.8 |

# TIDAL CURRENT ELLIPSE

STN J03  DEPTH 225  JOHNSTONE STRAIT  50 28.3 N  126  8.0 W
STARTING TIME OF ANALYSED DATA  7 MIN  18 HR  22 DAY  4 MON  76 YR
LENGTH OF DATA  54 DAYS  0 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 17.9 | .0 | 176.6 | 180.0 |
| MM | 2.5 | .0 | 3.9 | 42.9 |
| MSF | 2.6 | .2 | 179.6 | 231.1 |
| ALP1 | .3 | -.1 | 156.1 | 261.6 |
| 2Q1 | .7 | .2 | 174.0 | 295.3 |
| Q1 | 1.3 | -.1 | 173.1 | 193.8 |
| O1 | 8.0 | .0 | 169.2 | 198.1 |
| NO1 | .7 | -.2 | 153.2 | 249.9 |
| K1 | 18.3 | -.9 | 170.4 | 189.0 |
| J1 | .7 | .2 | 24.7 | 74.1 |
| OO1 | 1.4 | -.1 | 178.4 | 136.3 |
| UPS1 | .5 | -.1 | 121.7 | 252.5 |
| EPS2 | 1.1 | -.1 | 4.1 | 199.3 |
| MU2 | 2.4 | -.2 | 172.1 | 97.2 |
| N2 | 10.5 | -.9 | 175.1 | 182.2 |
| M2 | 46.7 | -3.8 | 174.6 | 217.6 |
| L2 | 4.5 | -.7 | 172.4 | 279.6 |
| S2 | 9.9 | -.7 | 172.8 | 224.0 |
| ETA2 | 1.6 | -.3 | 170.7 | 236.8 |
| MO3 | 2.8 | -.5 | 4.1 | 268.1 |
| M3 | .8 | -.2 | 21.6 | 48.3 |
| MK3 | 3.1 | -.9 | 7.0 | 243.7 |
| SK3 | .4 | -.2 | 7.1 | 265.7 |
| MN4 | .7 | -.1 | 17.4 | 226.2 |
| M4 | 1.9 | -.2 | 25.0 | 257.8 |
| SN4 | .5 | -.3 | 173.1 | 69.3 |
| MS4 | 1.2 | -.4 | 24.4 | 305.4 |
| S4 | .3 | .1 | 175.5 | 166.6 |
| 2MK5 | 1.5 | .3 | 159.2 | 164.8 |
| 2SK5 | .3 | .2 | 136.0 | 94.4 |
| 2MN6 | 1.0 | .2 | 1.5 | 43.1 |
| M6 | 1.3 | .4 | 167.8 | 266.4 |
| 2MS6 | .8 | .2 | 171.0 | 298.9 |
| 2SM6 | .4 | -.1 | 1.6 | 110.0 |
| 3MK7 | 1.0 | .5 | 32.3 | 264.5 |
| M8 | .3 | -.1 | 10.4 | .3 |

TIDAL CURRENT ELLIPSE

STN J06 DEPTH 020 JOHNSTONE STRAIT 50 29.6 N 126 17.7 W
STARTING TIME OF ANALYSED DATA 5 MIN 14 HR 22 DAY 4 MON 76 YR
LENGTH OF DATA 61 DAYS, 21 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 22.8 | .0 | 1.0 | 180.0 |
| MM | 2.7 | -.4 | 25.7 | 1.3 |
| MSF | 3.5 | .7 | 17.8 | 184.9 |
| ALP1 | .5 | .1 | 27.3 | 52.6 |
| 2Q1 | .7 | .4 | 13.1 | 79.9 |
| Q1 | .6 | .3 | 172.5 | 48.5 |
| O1 | 2.5 | .3 | 172.9 | 94.1 |
| NO1 | .8 | -.1 | 155.7 | 282.5 |
| K1 | 2.5 | 1.1 | 167.0 | 186.9 |
| J1 | 1.2 | -.1 | 12.4 | 51.1 |
| OO1 | 1.3 | -.3 | 171.4 | 305.2 |
| UPS1 | .4 | -.1 | 89.3 | 352.0 |
| EPS2 | .7 | -.2 | 128.6 | 320.0 |
| MU2 | 2.4 | .6 | 162.7 | 34.6 |
| N2 | 5.5 | .5 | 174.0 | 176.0 |
| M2 | 30.3 | 1.7 | 171.8 | 209.4 |
| L2 | 2.9 | -.4 | 177.3 | 242.3 |
| S2 | 5.9 | .5 | 171.5 | 232.9 |
| ETA2 | .8 | .4 | 47.0 | 113.7 |
| MO3 | 2.4 | -.1 | 171.6 | 61.7 |
| M3 | .5 | .1 | 177.6 | 267.5 |
| MK3 | 2.0 | .2 | 165.1 | 57.6 |
| SK3 | .4 | -.3 | 55.9 | 136.7 |
| MN4 | 1.5 | -.7 | 174.6 | 31.0 |
| M4 | 2.0 | -.2 | 25.1 | 223.6 |
| SN4 | 1.0 | .4 | 154.5 | 242.6 |
| MS4 | .5 | -.4 | 59.6 | 250.2 |
| S4 | .3 | .0 | 50.1 | 274.4 |
| 2MK5 | 1.3 | .1 | 167.0 | 227.3 |
| 2SK5 | .4 | .1 | 27.1 | 318.0 |
| 2MN6 | .8 | -.2 | 26.6 | 6.2 |
| M6 | 1.6 | -.8 | 21.0 | 35.0 |
| 2MS6 | 1.1 | -.3 | 13.8 | 71.0 |
| 2SM6 | .5 | -.1 | 17.9 | 150.5 |
| 3MK7 | .4 | -.3 | 168.0 | 134.1 |
| M8 | .4 | .2 | 8.8 | 252.3 |

TIDAL CURRENT ELLIPSE

STN J06 DEPTH 225 JOHNSTONE STRAIT 50 29.6 N 126 17.7 W
STARTING TIME OF ANALYSED DATA 7 MIN 14 HR 22 DAY 4 MON 76 YR
LENGTH OF DATA 61 DAYS 21 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 9.6 | .0 | 170.8 | 180.0 |
| MM | 1.5 | .0 | 174.3 | 242.5 |
| MSF | 2.5 | .2 | 170.8 | 251.9 |
| ALP1 | .3 | -.1 | 177.9 | 268.3 |
| 2Q1 | .7 | .2 | 138.8 | 326.9 |
| Q1 | 1.1 | .2 | 169.9 | 196.4 |
| O1 | 6.1 | .1 | 174.1 | 223.9 |
| NO1 | .8 | -.2 | 160.5 | 239.6 |
| K1 | 11.6 | .0 | 169.4 | 220.0 |
| J1 | .4 | .0 | 16.1 | 127.0 |
| OO1 | .8 | -.2 | 155.0 | 150.9 |
| UPS1 | .4 | .1 | 73.5 | 20.7 |
| EPS2 | .1 | .0 | 52.3 | 195.5 |
| MU2 | 1.4 | .2 | 154.3 | 139.2 |
| N2 | 4.8 | -.1 | 171.2 | 180.5 |
| M2 | 22.8 | -.6 | 170.3 | 219.6 |
| L2 | 1.7 | -.3 | 167.2 | 275.8 |
| S2 | 5.8 | .0 | 171.1 | 220.7 |
| ETA2 | .5 | -.4 | 167.3 | 84.4 |
| MO3 | .7 | .3 | 96.5 | 123.1 |
| M3 | .4 | .1 | 163.2 | 105.1 |
| MK3 | 1.4 | .1 | 144.1 | 145.4 |
| SK3 | .2 | .0 | 89.8 | 181.1 |
| MN4 | .6 | .1 | 152.9 | 182.8 |
| M4 | 1.0 | -.1 | 156.1 | 219.9 |
| SN4 | .5 | -.2 | 21.7 | 268.7 |
| MS4 | .6 | .0 | 140.1 | 272.3 |
| S4 | .2 | .0 | 52.4 | 163.2 |
| 2MK5 | .9 | -.1 | 12.0 | 302.8 |
| 2SK5 | .3 | -.2 | 118.7 | 308.3 |
| 2MN6 | .4 | .1 | 147.0 | 146.9 |
| M6 | .6 | .1 | 164.3 | 203.7 |
| 2MS6 | .4 | -.2 | 138.1 | 216.6 |
| 2SM6 | .2 | -.2 | 136.7 | 167.1 |
| 3MK7 | .2 | -.1 | 166.2 | 349.6 |
| M8 | .2 | .0 | 165.4 | 286.6 |

TIDAL CURRENT ELLIPSE

STN J03  DEPTH 023      JOHNSTONE STRAIT        50 28.3 N  126  8.2 W
STARTING TIME OF ANALYSED DATA    7 MIN  18 HR  29 DAY   1 MON  77 YR
LENGTH OF DATA   81 DAYS  20 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 26.3 | .0 | 173.9 | 360.0 |
| MM... | 2.8 | -.8 | 177.2 | 58.2 |
| MSF | 5.4 | -2.0 | 178.1 | 108.4 |
| ALP1 | .8 | .2 | 164.1 | 213.1 |
| 2Q1 | 2.4 | -.2 | 167.0 | 271.7 |
| Q1 | .8 | .1 | 1.1 | 216.1 |
| O1 | 1.9 | .2 | 176.4 | 260.9 |
| NO1 | .4 | -.1 | 163.8 | 331.4 |
| K1 | 6.5 | -.1 | 176.8 | 268.5 |
| J1 | .1 | .1 | 109.4 | 332.3 |
| OO1 | 2.0 | -1.1 | 141.6 | 157.9 |
| UPS1 | .7 | .3 | 172.8 | 333.1 |
| EPS2 | .5 | -.2 | 133.6 | 313.5 |
| MU2 | 1.1 | .4 | 130.8 | 56.4 |
| N2 | 4.6 | .3 | 177.5 | 197.3 |
| M2 | 28.0 | -.5 | 173.6 | 213.8 |
| L2 | .5 | .1 | 5.7 | 102.6 |
| S2 | 10.9 | .2 | 173.8 | 227.6 |
| ETA2 | .8 | .1 | 141.5 | 148.4 |
| MO3 | 1.1 | .5 | 139.0 | 181.2 |
| M3 | .7 | -.1 | 160.5 | 154.0 |
| MK3 | 1.0 | -.2 | 153.0 | 196.7 |
| SK3 | 1.1 | .0 | 135.3 | 325.6 |
| MN4 | .7 | .1 | 153.6 | 304.7 |
| M4 | 1.9 | .7 | 154.9 | 259.1 |
| SN4 | .3 | .0 | 142.9 | 4.2 |
| MS4 | 1.2 | .2 | 134.0 | 317.7 |
| S4 | .6 | .0 | 132.5 | 23.5 |
| 2MK5 | .8 | -.2 | 83.2 | 245.6 |
| 2SK5 | .5 | -.1 | 45.8 | 157.5 |
| 2MN6 | .1 | .1 | 79.7 | 199.1 |
| M6 | 1.1 | -.7 | 128.2 | 246.2 |
| 2MS6 | .9 | -.1 | 94.0 | 292.1 |
| 2SM6 | .9 | .0 | 153.1 | 353.1 |
| 3MK7 | .2 | .0 | 147.8 | 140.6 |
| M8 | .4 | -.3 | 54.4 | 133.9 |

TIDAL CURRENT ELLIPSE

STN J03 DEPTH 200 JOHNSTONE STRAIT 50 28.3 N 126 8.2 W
STARTING TIME OF ANALYSED DATA 7 MIN 12 HR 3 DAY 3 MON 77 YR
LENGTH OF DATA 49 DAYS 2 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 15.8 | .0 | 169.2 | 180.0 |
| MM | 2.8 | -.1 | 177.7 | 229.1 |
| MSF | 2.9 | -.4 | 173.7 | 264.1 |
| ALP1 | .6 | .1 | 169.8 | 339.7 |
| 2Q1 | 1.0 | -.2 | 5.3 | 292.5 |
| Q1 | 1.6 | .0 | 167.6 | 206.7 |
| O1 | 8.2 | -.8 | 169.9 | 201.6 |
| NO1 | .9 | -.1 | 167.8 | 336.2 |
| K1 | 10.9 | -.6 | 167.5 | 204.5 |
| J1 | 1.3 | -.1 | 158.5 | 262.5 |
| OO1 | 1.9 | -.1 | 172.9 | 353.8 |
| UPS1 | .5 | -.1 | 20.5 | 281.0 |
| EPS2 | 1.4 | -.4 | 177.9 | 57.9 |
| MU2 | 4.4 | -.6 | 172.1 | 69.5 |
| N2 | 7.9 | -.3 | 164.7 | 199.3 |
| M2 | 44.1 | -1.5 | 166.1 | 220.7 |
| L2 | 1.8 | -.4 | 161.6 | 245.0 |
| S2 | 12.9 | -.7 | 163.9 | 235.9 |
| ETA2 | 1.0 | -.5 | 126.3 | 194.6 |
| MO3 | 2.7 | -1.1 | 169.2 | 113.5 |
| M3 | .5 | -.3 | 169.3 | 158.4 |
| MK3 | 1.4 | -.7 | 175.4 | 103.1 |
| SK3 | .7 | -.3 | 172.4 | 169.0 |
| MN4 | .7 | -.1 | 4.4 | 312.4 |
| M4 | 2.2 | -.1 | 19.8 | 305.8 |
| SN4 | .8 | -.1 | 6.4 | 290.0 |
| MS4 | .7 | .4 | 10.0 | 310.7 |
| S4 | .4 | .0 | 163.8 | 125.4 |
| 2MK5 | .8 | .6 | 4.3 | 17.2 |
| 2SK5 | .3 | -.2 | 7.6 | 291.5 |
| 2MN6 | .8 | -.1 | 7.8 | 43.2 |
| M6 | 1.1 | .2 | 1.9 | 70.7 |
| 2MS6 | 1.5 | -.1 | 179.0 | 262.3 |
| 2SM6 | .4 | .1 | 1.7 | 57.3 |
| 3MK7 | .2 | .1 | 71.6 | 337.4 |
| M8 | .3 | .1 | 63.6 | 31.5 |

TIDAL CURRENT ELLIPSE

STN J03  DEPTH 275  JOHNSTONE STRAIT  50 28.3 N  126 8.2 W
STARTING TIME OF ANALYSED DATA  7 MIN  17 HR  29 DAY  1 MON  77 YR
LENGTH OF DATA  81 DAYS  21 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 15.8 | .0 | 169.9 | 180.0 |
| MM | 2.5 | -.2 | 174.8 | 211.5 |
| MSF | 3.6 | .0 | 175.7 | 255.4 |
| ALP1 | .6 | .1 | 164.9 | 311.8 |
| 2Q1 | 1.3 | .1 | 171.6 | 130.2 |
| Q1 | .8 | -.3 | 166.5 | 200.7 |
| O1 | 10.2 | -.8 | 167.4 | 196.9 |
| NO1 | 1.0 | .3 | 153.0 | 334.2 |
| K1 | 13.5 | -.6 | 165.9 | 211.7 |
| J1 | 1.5 | .0 | 165.4 | 209.6 |
| OO1 | .8 | .2 | 158.1 | 5.0 |
| UPS1 | .5 | -.2 | 154.2 | 339.6 |
| EPS2 | 1.2 | -.2 | 175.5 | 48.6 |
| MU2 | 4.0 | -.5 | 170.2 | 63.8 |
| N2 | 7.6 | -.4 | 167.4 | 193.1 |
| M2 | 46.7 | -2.1 | 169.2 | 221.3 |
| L2 | 1.5 | -.1 | 170.1 | 245.2 |
| S2 | 12.9 | -.3 | 168.0 | 242.0 |
| ETA2 | .3 | .1 | 130.3 | 268.8 |
| MO3 | 2.4 | .0 | 168.6 | 96.0 |
| M3 | .5 | -.2 | 39.5 | 341.0 |
| MK3 | .8 | .3 | 24.4 | 306.8 |
| SK3 | .9 | -.4 | 160.1 | 152.9 |
| MN4 | .8 | .4 | 90.7 | 24.3 |
| M4 | 2.5 | 1.2 | 130.5 | 69.8 |
| SN4 | .4 | .2 | 35.4 | 308.1 |
| MS4 | 1.4 | .7 | 139.4 | 103.0 |
| S4 | .3 | .1 | 136.5 | 127.3 |
| 2MK5 | .7 | .0 | 8.9 | 33.7 |
| 2SK5 | .2 | -.1 | 70.3 | 208.9 |
| 2MN6 | 1.1 | -.6 | 175.6 | 219.8 |
| M6 | 1.7 | -.4 | 10.2 | 63.6 |
| 2MS6 | 1.8 | -.3 | 11.1 | 78.8 |
| 2SM6 | .2 | .1 | 151.1 | 211.4 |
| 3MK7 | .4 | .1 | 20.5 | 276.5 |
| M8 | .6 | -.1 | 52.6 | 306.1 |

TIDAL CURRENT ELLIPSE

STN J07 DEPTH 010 DISCOVERY PASSAGE 50 18.7 N 125 25.7 W
STARTING TIME OF ANALYSED DATA 7 MIN 17 HR 8 DAY 3 MON 77 YR
LENGTH OF DATA 64 DAYS 13 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 25.2 | .0 | 91.9 | 360.0 |
| MM | 3.0 | .1 | 113.4 | 8.4 |
| MSF | 5.5 | 1.2 | 105.1 | 45.6 |
| ALP1 | .2 | .0 | 148.2 | 296.9 |
| 2Q1 | .7 | .4 | 71.2 | 25.9 |
| Q1 | 1.4 | .8 | 140.0 | 19.3 |
| O1 | 4.8 | .9 | 107.9 | 120.9 |
| NO1 | 1.8 | .1 | 122.4 | 343.8 |
| K1 | 6.4 | 1.1 | 109.1 | 191.5 |
| J1 | .9 | -.7 | 28.5 | 174.6 |
| OO1 | 3.9 | .7 | 125.1 | 107.7 |
| UPS1 | 1.0 | .3 | 49.4 | 28.7 |
| EPS2 | 1.6 | -1.1 | 8.6 | 150.1 |
| MU2 | 5.8 | 1.2 | 86.5 | 81.4 |
| N2 | 7.0 | 1.9 | 114.1 | 212.2 |
| M2 | 47.4 | 8.6 | 110.9 | 238.6 |
| L2 | 5.3 | -1.4 | 114.9 | 271.6 |
| S2 | 12.6 | 4.6 | 114.7 | 242.6 |
| ETA2 | 1.6 | .8 | 146.4 | 209.0 |
| MO3 | 6.5 | -.6 | 88.7 | 149.1 |
| M3 | 1.0 | .0 | 143.0 | 323.7 |
| MK3 | 4.3 | -1.1 | 109.0 | 135.7 |
| SK3 | 1.4 | .3 | 97.3 | 177.9 |
| MN4 | 3.3 | -.4 | 111.1 | 175.1 |
| M4 | 6.9 | -3.1 | 120.3 | 190.4 |
| SN4 | 1.4 | -.2 | 28.6 | 207.5 |
| MS4 | 4.9 | -1.9 | 105.7 | 211.7 |
| S4 | 1.5 | -.3 | 80.2 | 199.1 |
| 2MK5 | 2.4 | -.2 | 110.2 | 244.7 |
| 2SK5 | .5 | .3 | 64.1 | 237.4 |
| 2MN6 | 2.2 | -.7 | 74.6 | 313.3 |
| M6 | 3.6 | -1.4 | 61.7 | 331.7 |
| 2MS6 | 3.3 | -.8 | 66.4 | 340.7 |
| 2SM6 | 1.4 | .2 | 74.0 | 326.0 |
| 3MK7 | .9 | .5 | 152.2 | 129.1 |
| M8 | 1.6 | .0 | 18.9 | 36.4 |

TIDAL CURRENT ELLIPSE

STN J07 DEPTH 072 DISCOVERY PASSAGE 50 18.7 N 125 25.7 W
STARTING TIME OF ANALYSED DATA 7 MIN 17 HR 8 DAY 3 MON 77 YR
LENGTH OF DATA 62 DAYS 2 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 16.6 | .0 | 115.1 | 360.0 |
| MM | 3.7 | .1 | 123.1 | 29.6 |
| MSF | 5.6 | -.6 | 121.2 | 41.7 |
| ALP1 | 1.1 | .1 | 128.9 | 228.6 |
| 2Q1 | .4 | .1 | 119.0 | 106.6 |
| Q1 | 1.1 | 1.0 | 103.2 | 348.2 |
| O1 | 3.8 | -.9 | 104.9 | 125.7 |
| NO1 | 1.1 | .1 | 121.9 | 8.6 |
| K1 | 4.8 | -.3 | 93.5 | 197.1 |
| J1 | 1.3 | -.7 | 76.5 | 140.9 |
| OO1 | 4.8 | .0 | 115.2 | 103.8 |
| UPS1 | 1.7 | .6 | 76.6 | 73.8 |
| EPS2 | 1.1 | -.8 | 57.7 | 105.7 |
| MU2 | 4.6 | .8 | 84.0 | 75.0 |
| N2 | 7.3 | .5 | 111.3 | 212.4 |
| M2 | 45.2 | 2.2 | 104.2 | 235.3 |
| L2 | 5.0 | -1.2 | 112.3 | 258.2 |
| S2 | 11.9 | 1.6 | 107.2 | 243.0 |
| ETA2 | 1.9 | .5 | 101.2 | 139.0 |
| MO3 | 6.2 | .0 | 105.9 | 137.9 |
| M3 | .9 | -.4 | 145.2 | 321.0 |
| MK3 | 4.4 | -.4 | 107.8 | 134.3 |
| SK3 | 1.6 | .0 | 125.8 | 166.3 |
| MN4 | 3.9 | -.7 | 120.4 | 181.9 |
| M4 | 10.3 | -1.0 | 109.4 | 197.3 |
| SN4 | 2.0 | -.9 | 87.2 | 132.1 |
| MS4 | 6.1 | -.6 | 117.5 | 214.4 |
| S4 | 1.1 | .2 | 110.4 | 210.9 |
| 2MK5 | 2.2 | .4 | 102.6 | 237.6 |
| 2SK5 | .3 | .2 | 160.1 | 259.4 |
| 2MN6 | 1.6 | -.5 | 65.5 | 298.9 |
| M6 | 2.6 | -.9 | 64.9 | 307.5 |
| 2MS6 | 2.9 | -.9 | 67.7 | 332.6 |
| 2SM6 | .8 | -.1 | 83.6 | 320.6 |
| 3MK7 | .6 | .2 | 124.3 | 109.7 |
| M8 | .6 | .0 | 142.6 | 218.6 |

# TIDAL CURRENT ELLIPSE

STN J07 DEPTH 177 DISCOVERY PAS TIME( 50 18.7 N 125 25.7 W
STARTING TIME OF ANALYSED DATA 7 MIN 17 HR 3 DAY 3 MON 77 YR
LENGTH OF DATA 64 DAYS 13 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 5.8 | .0 | 156.6 | 360.0 |
| MM | 5.9 | .5 | 93.3 | 32.8 |
| MSF | 5.4 | -.2 | 95.3 | 37.1 |
| ALP1 | .8 | -.4 | 149.7 | 207.3 |
| 2Q1 | .5 | .3 | 4.3 | 81.4 |
| Q1 | 1.2 | -.4 | 53.9 | 72.7 |
| O1 | 3.3 | -1.9 | 127.8 | 84.6 |
| NO1 | 1.4 | -.2 | 57.1 | 341.7 |
| K1 | 6.2 | -1.6 | 64.5 | 201.4 |
| J1 | 1.9 | -.4 | 27.8 | 326.1 |
| OO1 | 2.4 | .7 | 90.7 | 84.8 |
| UPS1 | 2.5 | -.6 | 49.4 | 197.8 |
| EPS2 | 1.8 | .3 | 62.3 | 330.7 |
| MU2 | 2.6 | -1.0 | 158.9 | 65.3 |
| N2 | 10.3 | -2.1 | 73.8 | 206.6 |
| M2 | 43.6 | -7.2 | 79.0 | 229.7 |
| L2 | 3.4 | .5 | 69.9 | 219.1 |
| S2 | 14.3 | -4.0 | 71.7 | 253.1 |
| ETA2 | 3.8 | -.9 | 73.6 | 194.6 |
| MO3 | 4.2 | 1.0 | 116.4 | 132.4 |
| M3 | 2.1 | .6 | 67.4 | 333.7 |
| MK3 | 3.9 | 1.6 | 96.3 | 130.9 |
| SK3 | 1.7 | .3 | 86.3 | 174.6 |
| MN4 | 4.9 | 1.9 | 92.0 | 179.2 |
| M4 | 9.8 | 3.9 | 93.5 | 186.0 |
| SN4 | 1.8 | 1.2 | 170.7 | 151.6 |
| MS4 | 5.7 | 2.6 | 92.1 | 207.7 |
| S4 | 1.0 | -.2 | 128.4 | 213.2 |
| 2MK5 | 1.9 | .2 | 67.8 | 255.7 |
| 2SK5 | .7 | -.3 | 46.7 | 296.3 |
| 2MN6 | .9 | .2 | 176.1 | 293.0 |
| M6 | 2.2 | .1 | 17.9 | 143.4 |
| 2MS6 | 2.4 | .7 | 175.2 | 347.2 |
| 2SM6 | 1.0 | -.1 | 129.7 | 343.4 |
| 3MK7 | 1.6 | .6 | 140.3 | 158.7 |
| M8 | 1.8 | .7 | 74.4 | 177.7 |

TIDAL CURRENT ELLIPSE

STN J08  DEPTH 290  NODALES CHANNEL  50 21.5 N  125 23.1 W
STARTING TIME OF ANALYSED DATA  7 MIN  19 HR  1 DAY  2 MON  77 YR
LENGTH OF DATA  97 DAYS  2 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 6.9 | .0 | 23.8 | 360.0 |
| MM | 2.3 | .4 | 23.4 | 86.0 |
| MSF | 4.3 | -.1 | 18.7 | 26.7 |
| ALP1 | 1.2 | .4 | 17.1 | 282.6 |
| 2Q1 | .8 | .3 | 52.1 | 34.6 |
| Q1 | 1.0 | .1 | 7.5 | 78.0 |
| O1 | 5.1 | -.3 | 19.5 | 63.4 |
| NO1 | 1.6 | -.1 | 9.6 | 181.7 |
| K1 | 6.1 | -.2 | 22.8 | 139.1 |
| J1 | 1.0 | .3 | 5.3 | 327.8 |
| OO1 | 1.3 | .3 | 39.7 | 351.7 |
| UPS1 | 1.8 | .4 | 20.8 | 187.2 |
| EPS2 | 1.4 | .1 | 36.3 | 50.4 |
| MU2 | 2.4 | .3 | 29.2 | 301.3 |
| N2 | 3.3 | .2 | 29.4 | 300.8 |
| M2 | 9.5 | .3 | 30.3 | 307.2 |
| L2 | 2.3 | -.1 | 25.5 | 243.0 |
| S2 | 2.8 | .1 | 30.3 | 6.2 |
| ETA2 | 2.8 | .2 | 31.9 | 251.4 |
| MO3 | 1.4 | .7 | 160.2 | 32.1 |
| M3 | .8 | -.1 | 8.2 | 149.5 |
| MK3 | 1.6 | .7 | 46.2 | 2.2 |
| SK3 | 1.6 | .1 | 25.3 | 331.0 |
| MN4 | .9 | -.1 | 49.4 | 163.2 |
| M4 | 3.7 | .4 | 45.8 | 168.3 |
| SN4 | 1.0 | .1 | 28.0 | 44.4 |
| MS4 | 1.9 | -.1 | 47.9 | 184.3 |
| S4 | .4 | -.1 | 172.2 | 168.1 |
| 2MK5 | .6 | .2 | 21.7 | 173.7 |
| 2SK5 | .3 | .1 | 33.2 | 272.8 |
| 2MN6 | .4 | .0 | 145.9 | 313.8 |
| M6 | 1.2 | .2 | 37.1 | 295.4 |
| 2MS6 | 1.1 | .3 | 61.8 | 321.2 |
| 2SM6 | .3 | .1 | 76.2 | 194.0 |
| 3MK7 | .6 | .2 | 16.7 | 173.4 |
| M8 | .6 | -.1 | 38.7 | 183.9 |

TIDAL CURRENT ELLIPSE

STN J09 DEPTH 030 JOHNSTONE STRAIT 50 22.4 N 125 39.5 W
STARTING TIME OF ANALYSED DATA 7 MIN 14 HR 29 DAY 1 MON 77 YR
LENGTH OF DATA 36 DAYS 22 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 30.6 | .0 | 4.2 | 180.0 |
| MM.. | 2.1 | .1 | 71.6 | 206.5 |
| MSF | 2.7 | -.5 | 76.6 | 218.8 |
| ALP1 | 1.7 | -.2 | 172.7 | 163.7 |
| 2Q1 | 2.1 | .6 | 4.7 | 180.9 |
| Q1 | 3.7 | -.2 | 175.7 | 245.4 |
| O1 | 7.0 | -.4 | 171.4 | 267.0 |
| NO1 | 4.2 | -.1 | 178.9 | 299.8 |
| K1 | 13.7 | .9 | 179.7 | 298.9 |
| J1 | 3.2 | -.2 | 173.7 | 61.4 |
| OO1 | 6.6 | -.4 | 178.7 | 59.9 |
| UPS1 | 2.8 | -.3 | 11.0 | 201.0 |
| EPS2 | 5.2 | -.4 | 179.7 | 203.6 |
| MU2 | 11.2 | -.6 | .1 | 53.1 |
| N2 | 23.7 | .4 | .3 | 171.4 |
| M2 | 47.5 | .6 | .5 | 223.5 |
| L2 | 19.6 | .2 | .1 | 114.2 |
| S2 | 3.2 | .1 | 179.5 | 67.9 |
| ETA2 | 11.2 | .0 | 1.1 | 202.5 |
| MO3 | 2.7 | 1.3 | 149.2 | 299.3 |
| M3 | .6 | .4 | 134.2 | 65.6 |
| MK3 | 2.9 | -.8 | 166.4 | 196.2 |
| SK3 | .9 | -.3 | 175.3 | 257.0 |
| MN4 | 1.6 | .6 | 145.0 | 325.6 |
| M4 | 5.4 | .0 | 148.4 | 354.0 |
| SN4 | 1.2 | -.2 | 14.4 | 99.2 |
| MS4 | 2.8 | .3 | 148.6 | 14.7 |
| S4 | 1.2 | .3 | 22.6 | 119.0 |
| 2MK5 | .9 | -.1 | 173.9 | 339.2 |
| 2SK5 | .8 | .5 | 126.9 | 252.9 |
| 2MN6 | 1.0 | .1 | 3.7 | 175.1 |
| M6 | .8 | .0 | 177.5 | 1.5 |
| 2MS6 | .6 | .2 | 20.7 | 250.6 |
| 2SM6 | 1.0 | -.2 | 33.6 | 59.6 |
| 3MK7 | 1.1 | .4 | 4.7 | 123.7 |
| M8 | 3.0 | -.5 | 7.0 | 175.7 |

TIDAL CURRENT ELLIPSE

STN J09 DEPTH 086 JOHNSTONE STRAIT 50 22.4 N 125 39.5 W
STARTING TIME OF ANALYSED DATA 7 MIN 14 HR 29 DAY 1 MON 77 YR
LENGTH OF DATA 61 DAYS 19 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 8.6 | .0 | 3.8 | 180.0 |
| MM | 1.2 | .0 | 51.6 | 199.5 |
| MSF | 1.8 | -.3 | 39.7 | 229.7 |
| ALP1 | .8 | -.2 | 164.3 | 149.4 |
| 2Q1 | .7 | -.1 | 167.0 | 157.9 |
| Q1 | .8 | -.1 | 32.9 | 148.2 |
| O1 | 7.4 | .1 | 174.0 | 193.2 |
| NO1 | .8 | .2 | 163.7 | 300.7 |
| K1 | 14.8 | .4 | 177.1 | 226.7 |
| J1 | 1.8 | .2 | 163.0 | 201.3 |
| OO1 | 1.7 | -.4 | 171.3 | 60.2 |
| UPS1 | .9 | .0 | 125.4 | 312.6 |
| EPS2 | .6 | .2 | 158.1 | 36.1 |
| MU2 | 4.0 | .7 | 155.4 | 86.8 |
| N2 | 10.3 | .8 | 176.8 | 203.7 |
| M2 | 60.6 | .2 | 174.2 | 231.6 |
| L2 | .7 | .1 | 167.2 | 291.3 |
| S2 | 19.8 | 1.4 | 174.2 | 254.6 |
| ETA2 | .8 | .3 | 176.3 | 237.5 |
| MO3 | 1.9 | -.6 | 170.2 | 105.5 |
| M3 | .5 | -.1 | 114.0 | 207.2 |
| MK3 | .7 | .2 | 166.6 | 101.6 |
| SK3 | 1.1 | .0 | 51.2 | 74.0 |
| MN4 | .7 | .5 | 158.9 | 34.2 |
| M4 | 1.1 | .5 | 48.9 | 287.7 |
| SN4 | .2 | -.1 | 83.5 | 95.2 |
| MS4 | 1.0 | .9 | 138.1 | 96.0 |
| S4 | .4 | .0 | 96.1 | 75.9 |
| 2MK5 | 1.4 | .4 | 157.2 | 273.5 |
| 2SM5 | .5 | -.1 | 31.9 | 106.9 |
| 2MN6 | 1.1 | .3 | 179.4 | 265.5 |
| M6 | 1.0 | .8 | 112.7 | 250.0 |
| 2MS6 | 1.5 | 1.0 | 173.7 | 341.4 |
| 2SM6 | 1.3 | .1 | 1.5 | 163.5 |
| 3MK7 | .8 | -.1 | 25.7 | 280.2 |
| M8 | .7 | .0 | 155.1 | 355.3 |

# TIDAL CURRENT ELLIPSE

STN J09 DEPTH 225 JOHNSTONE STRAIT 50 22.4 N 125 39.5 W
STARTING TIME OF ANALYSED DATA 7 MIN 14 HR 29 DAY 1 MON 77 YR
LENGTH OF DATA 37 DAYS 17 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 35.0 | .0 | 176.7 | 180.0 |
| MM | 2.8 | .2 | 18.4 | 9.9 |
| MSF | 4.6 | 1.1 | 21.4 | 22.7 |
| ALP1 | .9 | -.3 | 89.2 | 189.3 |
| 2Q1 | 2.8 | .1 | 1.1 | 357.3 |
| Q1 | 1.0 | -.4 | 150.5 | 303.4 |
| O1 | 10.7 | .0 | 2.6 | 42.9 |
| NO1 | .8 | -.3 | 136.9 | 305.0 |
| K1 | 10.9 | -.3 | 8.6 | 69.1 |
| J1 | .7 | -.2 | 25.0 | 83.5 |
| OO1 | 2.0 | 1.5 | 61.2 | 306.8 |
| UPS1 | 1.0 | -.1 | 26.8 | 276.0 |
| EPS2 | 1.1 | .5 | 6.4 | 173.9 |
| MU2 | 5.8 | .3 | 2.7 | 216.9 |
| N2 | 6.8 | 1.0 | 3.7 | 6.3 |
| M2 | 57.0 | 2.4 | 1.7 | 44.1 |
| L2 | 2.1 | .0 | 176.2 | 267.9 |
| S2 | 15.5 | .9 | 4.1 | 65.2 |
| ETA2 | 1.8 | -.2 | 179.5 | 122.4 |
| MO3 | 3.5 | -.1 | 139.6 | 120.4 |
| M3 | .8 | .3 | 26.6 | 23.1 |
| MK3 | 4.0 | -.3 | 165.9 | 152.8 |
| SK3 | 1.4 | -.3 | 49.6 | 276.2 |
| MN4 | .7 | .2 | 114.3 | 75.3 |
| M4 | 3.5 | 2.5 | 135.5 | 144.4 |
| SN4 | .6 | .4 | 127.8 | 200.6 |
| MS4 | 1.7 | -.6 | 117.9 | 161.4 |
| S4 | .8 | .1 | 61.3 | 325.7 |
| 2MK5 | 1.7 | .8 | 168.9 | 124.0 |
| 2SK5 | .9 | -.1 | 122.6 | 96.5 |
| 2MN6 | 1.9 | .3 | 1.1 | 318.8 |
| M6 | 3.1 | -.4 | 171.0 | 175.3 |
| 2MS6 | 3.6 | -.6 | 172.6 | 205.5 |
| 2SM6 | .9 | -.4 | 6.3 | 34.7 |
| 3MK7 | 2.1 | -.3 | 171.2 | 166.9 |
| M8 | 3.8 | -.9 | 9.4 | 347.1 |

TIDAL CURRENT ELLIPSE

STN J10 DEPTH 022 JOHNSTONE STRAIT 50 29.9 N 126 26.0 W
STARTING TIME OF ANALYSED DATA 7 MIN 21 HR 25 DAY 1 MON 77 YR
LENGTH OF DATA 69 DAYS 5 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 25.3 | .0 | 8.5 | 180.0 |
| MM | 2.2 | .0 | 2.8 | 204.1 |
| MSF | 5.6 | -.1 | 3.7 | 265.5 |
| ALP1 | .8 | -.3 | 176.6 | 298.7 |
| 2Q1 | .3 | -.1 | 54.1 | 127.8 |
| Q1 | .4 | -.4 | 18.1 | 279.9 |
| O1 | 5.5 | .1 | 8.3 | 9.4 |
| NO1 | .3 | -.2 | 1.1 | 320.5 |
| K1 | 8.3 | -.3 | 9.6 | 42.3 |
| J1 | .2 | .0 | 80.0 | 66.0 |
| OO1 | 1.7 | .1 | 12.8 | 167.2 |
| UPS1 | .4 | .4 | 5.8 | 153.6 |
| EPS2 | .4 | .2 | 27.6 | 304.0 |
| MU2 | 1.8 | .2 | 5.5 | 255.4 |
| N2 | 4.4 | .1 | 4.2 | 10.0 |
| M2 | 24.2 | 1.7 | 4.9 | 29.1 |
| L2 | .7 | -.1 | 9.2 | 68.5 |
| S2 | 8.6 | .1 | .8 | 38.8 |
| ETA2 | .5 | .1 | 37.6 | 49.8 |
| MO3 | .6 | -.3 | 61.7 | 107.7 |
| M3 | .3 | .0 | 115.1 | 41.5 |
| MK3 | .3 | -.2 | 50.4 | 149.1 |
| SK3 | .3 | .2 | 106.1 | 91.7 |
| MN4 | .3 | .2 | 140.1 | 247.1 |
| M4 | 1.2 | .0 | 49.2 | 166.3 |
| SN4 | .2 | .0 | 176.7 | 222.1 |
| MS4 | .8 | .2 | 12.2 | 220.9 |
| S4 | .4 | -.1 | 179.1 | 81.2 |
| 2MK5 | .5 | .0 | 25.4 | 33.1 |
| 2SK5 | .3 | -.1 | 103.9 | 91.2 |
| 2MN6 | .2 | .0 | 34.2 | 42.6 |
| M6 | .8 | -.2 | 1.9 | 69.7 |
| 2MS6 | .6 | .0 | 173.3 | 289.8 |
| 2SM6 | .2 | .0 | 155.6 | 321.1 |
| 3MK7 | .3 | -.2 | 84.9 | 342.4 |
| M8 | .3 | -.2 | 57.3 | 25.8 |

TIDAL CURRENT ELLIPSE

STN J10 DEPTH 080 JOHNSTONE STRAIT 50 29.9 N 126 26.0 W
STARTING TIME OF ANALYSED DATA 7 MIN 21 HR 29 DAY 1 MON 77 YR
LENGTH OF DATA 32 DAYS 14 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 6.0 | .0 | 12.5 | 180.0 |
| MM.. | 1.3 | .1 | 2.6 | 118.8 |
| MSF | 6.7 | .0 | 10.7 | 245.8 |
| ALP1 | .7 | .4 | 49.7 | 87.7 |
| 2Q1 | .8 | -.2 | 143.2 | 293.3 |
| Q1 | 1.0 | .4 | 4.4 | 158.5 |
| O1 | 3.2 | -.2 | 163.1 | 189.6 |
| NO1 | 1.5 | .0 | 25.4 | 90.2 |
| K1 | 9.8 | .2 | 7.0 | 64.6 |
| J1 | .3 | .1 | 38.4 | 120.5 |
| OO1 | 1.4 | .3 | 171.4 | 184.4 |
| UPS1 | 1.0 | -.3 | 139.6 | 136.6 |
| EPS2 | .7 | -.2 | 67.1 | 219.1 |
| MU2 | 2.8 | .5 | 9.0 | 258.8 |
| N2 | 5.1 | -.2 | 10.6 | 356.1 |
| M2 | 29.0 | -2.2 | 6.7 | 28.2 |
| L2 | 1.3 | -.3 | 26.0 | 149.4 |
| S2 | 10.5 | .2 | 6.9 | 55.7 |
| ETA2 | 1.2 | .2 | 33.9 | 37.1 |
| MO3 | .6 | -.3 | 178.7 | 184.7 |
| M3 | .6 | .0 | 29.6 | 261.4 |
| MK3 | .8 | .1 | 25.9 | 66.3 |
| SK3 | 1.0 | -.1 | 165.5 | 129.4 |
| MN4 | .3 | .3 | 104.5 | 275.0 |
| M4 | 1.3 | -.3 | 96.8 | 279.5 |
| SN4 | .6 | .0 | 2.1 | 97.8 |
| MS4 | .8 | .0 | 79.3 | 287.4 |
| S4 | .1 | -.1 | 102.7 | 290.7 |
| 2MK5 | 1.3 | .0 | 14.3 | 12.9 |
| 2SK5 | .2 | .0 | 143.0 | 100.5 |
| 2MN6 | .2 | .1 | 81.9 | 139.4 |
| M6 | .8 | .0 | 11.4 | 65.8 |
| 2MS6 | 1.1 | .0 | 15.2 | 118.3 |
| 2SM6 | .6 | .0 | 170.2 | 314.7 |
| 3MK7 | .8 | -.2 | 40.4 | 345.5 |
| M8 | .6 | .0 | 77.3 | 64.2 |

TIDAL CURRENT ELLIPSE

STN J10 DEPTH 087 JOHNSTONE STRAIT 50 29.9 N 126 26.0 W
STARTING TIME OF ANALYSED DATA 7 MIN 16 HR 3 DAY 3 MON 77 YR
LENGTH OF DATA 64 DAYS 6 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 7.1 | .0 | 171.3 | 360.0 |
| MM | 2.9 | -.3 | 4.7 | 198.2 |
| MSF | 4.3 | -.4 | 8.1 | 235.8 |
| ALP1 | .4 | .1 | 160.5 | 328.3 |
| 2Q1 | .5 | -.1 | 47.6 | 138.0 |
| Q1 | 1.1 | -.1 | 173.5 | 214.5 |
| O1 | 3.9 | .0 | 172.0 | 192.0 |
| NO1 | .9 | .1 | 160.2 | 259.3 |
| K1 | 6.5 | .1 | 3.6 | 30.6 |
| J1 | .2 | -.1 | 39.6 | 119.7 |
| OO1 | .8 | -.4 | 89.5 | 185.7 |
| UPS1 | .3 | -.1 | 22.2 | 142.2 |
| EPS2 | .9 | .3 | 174.0 | 79.3 |
| MU2 | 2.8 | -.5 | 1.2 | 268.2 |
| N2 | 5.1 | -.1 | 178.3 | 189.5 |
| M2 | 26.3 | -.9 | 1.5 | 33.2 |
| L2 | 1.7 | -.3 | 156.9 | 230.9 |
| S2 | 8.0 | .9 | 6.3 | 39.1 |
| ETA2 | 1.1 | -.4 | 138.7 | 224.7 |
| MO3 | .7 | .1 | 20.6 | 268.5 |
| M3 | .5 | .0 | 27.0 | 29.1 |
| MK3 | .5 | -.4 | 13.2 | 298.9 |
| SK3 | .3 | -.2 | 67.5 | 86.4 |
| MN4 | .2 | -.2 | 147.2 | 260.5 |
| M4 | .5 | -.1 | 113.0 | 323.5 |
| SN4 | .6 | .1 | 46.4 | 153.9 |
| MS4 | .5 | -.3 | 3.2 | 166.4 |
| S4 | .4 | .1 | 161.6 | 316.7 |
| 2MK5 | .6 | -.3 | 160.3 | 151.4 |
| 2SK5 | .1 | .0 | 10.9 | 56.0 |
| 2MN6 | .3 | .0 | 18.2 | 66.4 |
| M6 | .7 | .1 | 17.3 | 49.1 |
| 2MS6 | .5 | -.1 | 26.1 | 94.0 |
| 2SM6 | .4 | .0 | 154.4 | 35.5 |
| 3MK7 | .3 | .0 | 177.6 | 307.1 |
| M8 | .2 | .0 | 12.5 | 237.0 |

TIDAL CURRENT ELLIPSE

STN J10 DEPTH 325 JOHNSTONE ST. 50 29.9 N 126 26.0 W
STARTING TIME OF ANALYSED DATA 0 MIN 22 HR 29 DAY 1 MON 77 YR
LENGTH OF DATA 97 DAYS 0 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 5.5 | .0 | 16.2 | 360.0 |
| MM | 1.1 | .1 | 13.4 | 322.0 |
| MSF | 4.2 | .0 | 179.7 | 267.1 |
| ALP1 | .3 | -.1 | 31.5 | 305.5 |
| 2Q1 | .4 | .0 | 151.3 | 236.4 |
| Q1 | .5 | .1 | 148.2 | 144.6 |
| O1 | 4.6 | -.1 | 2.6 | 24.8 |
| NO1 | .4 | .0 | 10.0 | 146.3 |
| K1 | 5.9 | .1 | 2.7 | 47.1 |
| J1 | .6 | .1 | 2.7 | 23.1 |
| OO1 | 1.3 | .5 | 8.8 | 183.6 |
| UPS1 | .3 | .0 | 95.6 | 116.5 |
| EPS2 | .6 | .1 | 20.9 | 177.3 |
| MU2 | 2.0 | -.3 | .4 | 227.6 |
| N2 | 4.8 | .1 | 6.4 | .9 |
| M2 | 30.2 | .7 | 6.6 | 26.5 |
| L2 | 1.3 | -.1 | 10.1 | 76.1 |
| S2 | 8.8 | .0 | 5.6 | 50.3 |
| ETA2 | 1.1 | .1 | 27.8 | 323.8 |
| MO3 | .9 | .2 | 176.7 | 107.4 |
| M3 | .1 | .1 | 170.4 | 128.9 |
| MK3 | .5 | .3 | 8.2 | 303.2 |
| SK3 | .3 | .1 | .5 | 9.0 |
| MN4 | .5 | .0 | 25.9 | 336.5 |
| M4 | 1.9 | -.4 | 30.4 | 16.5 |
| SN4 | .5 | .1 | 18.5 | 309.5 |
| MS4 | 1.0 | -.4 | 38.5 | 35.0 |
| S4 | .2 | -.1 | 32.0 | 318.8 |
| 2MK5 | .4 | -.4 | 101.4 | 233.4 |
| 2SK5 | .1 | .0 | 9.9 | 206.4 |
| 2MN6 | .6 | -.2 | 124.7 | 227.9 |
| M6 | 1.2 | -.8 | 114.8 | 263.1 |
| 2MS6 | 1.2 | -.8 | 102.5 | 306.8 |
| 2MK6 | .4 | -.2 | 93.9 | 339.5 |
| 3MK7 | .4 | -.3 | 7.6 | 291.5 |
| M8 | .3 | .0 | 80.0 | 234.4 |

TIDAL CURRENT ELLIPSE

STN J03 DEPTH 235 JOHNSTONE ST. 50 28.3 N 126 7.9 W
STARTING TIME OF ANALYSED DATA 2 MIN 19 HR 24 DAY 5 MON 78 YR
LENGTH OF DATA 8 DAYS 9 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 21.5 | .0 | .3 | 360.0 |
| K1 | 16.7 | -1.5 | .2 | 13.9 |
| M2 | 49.7 | -1.4 | 178.2 | 222.8 |
| M3 | 2.3 | -.8 | 174.9 | 232.7 |
| M4 | 2.0 | .4 | 6.7 | 290.1 |
| 2MK5 | 2.7 | -.1 | 176.9 | 181.1 |
| 2SK5 | .8 | -.3 | 177.1 | 262.4 |
| M6 | 2.2 | -.1 | 160.4 | 241.2 |
| 3MK7 | 1.2 | .3 | 48.1 | 271.7 |
| M8 | .7 | -.4 | 139.6 | 187.2 |

TIDAL CURRENT ELLIPSE

STN J12  DEPTH 155  JOHNSTONE ST.  50 28.4 N  126 10.1 W
STARTING TIME OF ANALYSED DATA  2 MIN  20 HR  24 DAY  5 MON  78 YR
LENGTH OF DATA  9 DAYS  7 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 12.6 | .0 | 171.1 | 180.0 |
| K1 | 12.3 | .7 | 172.8 | 217.4 |
| M2 | 37.5 | 2.6 | 170.5 | 224.6 |
| M3 | 1.7 | -.5 | 54.7 | 97.5 |
| M4 | 1.6 | .5 | 105.0 | 171.0 |
| 2MK5 | 1.6 | .6 | 23.7 | 3.7 |
| 2SK5 | .5 | .0 | 166.0 | 44.4 |
| M6 | 1.2 | -.9 | 2.9 | 65.8 |
| 3MK7 | 1.5 | -.3 | 103.9 | 139.3 |
| M8 | .6 | .2 | 68.7 | 249.7 |

TIDAL CURRENT ELLIPSE

STN J12 DEPTH 230 JOHNSTONE ST. 50 28.4 N 126 10.1 W
STARTING TIME OF ANALYSED DATA 2 MIN 20 HR 24 DAY 5 MON 78 YR
LENGTH OF DATA 8 DAYS 7 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 19.7 | .0 | 173.8 | 180.0 |
| K1 | 14.2 | .5 | 159.7 | 200.8 |
| M2 | 38.6 | 1.5 | 156.5 | 225.1 |
| M3 | 1.7 | -.1 | 152.1 | 216.0 |
| M4 | 1.8 | -1.0 | 132.8 | 164.3 |
| 2MK5 | .8 | .2 | 43.8 | 55.2 |
| 2SK5 | .7 | .3 | 34.1 | 167.9 |
| M6 | 1.6 | -.6 | 155.5 | 263.6 |
| 3MK7 | 1.0 | -.4 | 54.5 | 288.9 |
| M8 | .8 | .0 | 31.3 | 141.3 |

TIDAL CURRENT ELLIPSE

STN J13 DEPTH 055 JOHNSTONE ST. 50 28.1 N 126 3.3 W
STARTING TIME OF ANALYSED DATA 2 MIN 14 HR 24 DAY 5 MON 78 YR
LENGTH OF DATA 8 DAYS 11 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 15.9 | .0 | 159.0 | 360.0 |
| K1 | 18.9 | -.9 | 164.5 | 239.7 |
| M2 | 39.0 | .6 | 163.6 | 244.2 |
| M3 | 4.0 | 1.3 | 134.2 | 310.4 |
| M4 | 3.1 | .0 | 95.2 | 160.0 |
| 2MK5 | 3.3 | .9 | 24.8 | 45.3 |
| 2SK5 | 1.6 | -.1 | 121.0 | 270.1 |
| M6 | 2.2 | .7 | 4.0 | 83.5 |
| 3MK7 | .6 | -.3 | 137.4 | 131.5 |
| M8 | .8 | .4 | 46.8 | 60.8 |

# TIDAL CURRENT ELLIPSE

STN J13 DEPTH 160 JOHNSTONE ST. 50 28.1 N 126 3.3 W
STARTING TIME OF ANALYSED DATA 2 MIN 14 HR 24 DAY 5 MON 78 YR
LENGTH OF DATA 8 DAYS 14 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 3.0 | .0 | 9.1 | 180.0 |
| K1 | 18.9 | .6 | 167.6 | 199.9 |
| M2 | 47.0 | -2.1 | 165.4 | 223.8 |
| M3 | 2.7 | -.6 | 3.5 | 129.4 |
| M4 | 3.1 | -.5 | 171.6 | 219.8 |
| 2MK5 | 1.5 | -.5 | 174.6 | 33.6 |
| 2SK5 | 1.0 | -.7 | 28.0 | 77.4 |
| M6 | 2.2 | -.1 | 107.8 | 218.9 |
| 3MK7 | .5 | .4 | 37.2 | 347.8 |
| M8 | 1.2 | -.3 | 164.8 | 185.6 |

TIDAL CURRENT ELLIPSE

STN J13   DEPTH 245      JOHNSTONE ST.          50 28.1 N  126  3.3 W
STARTING TIME OF ANALYSED DATA    2 MIN  14 HR  24 DAY   5 MON  78 YR
LENGTH OF DATA    8 DAYS  14 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 3.4 | .0 | 7.2 | 360.0 |
| K1 | 15.5 | .0 | 166.1 | 173.2 |
| M2 | 34.4 | 3.7 | 170.1 | 207.7 |
| M3 | 4.5 | -.9 | 145.5 | 218.7 |
| M4 | 4.0 | -.6 | 144.1 | 163.8 |
| 2MK5 | 1.2 | -.6 | 134.2 | 130.4 |
| 2SK5 | 1.3 | -.6 | 79.8 | 227.1 |
| M6 | .5 | -.1 | 3.3 | 55.1 |
| 3MK7 | .8 | -.6 | 41.2 | 262.2 |
| M8 | 1.4 | .0 | 43.5 | 106.5 |

TIDAL CURRENT ELLIPSE

STN J14 DEPTH 050 JOHNSTONE ST. 50 27.7 N 126 3.7 W
STARTING TIME OF ANALYSED DATA 2 MIN 15 HR 24 DAY 5 MON 78 YR
LENGTH OF DATA 8 DAYS 14 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 12.8 | .0 | 156.4 | 360.0 |
| K1 | 16.9 | -2.4 | 158.4 | 250.3 |
| M2 | 32.2 | 3.0 | 160.9 | 241.7 |
| M3 | 2.9 | -1.3 | 168.1 | 348.3 |
| M4 | 3.0 | 1.4 | 56.2 | 106.8 |
| 2MK5 | 3.0 | .6 | 31.6 | 33.5 |
| 2SK5 | 1.3 | -.3 | 107.8 | 235.5 |
| M6 | 3.5 | .7 | 41.1 | 89.9 |
| 3MK7 | 1.6 | .0 | 105.7 | 320.0 |
| M8 | 2.2 | -1.5 | 117.9 | 313.1 |

TIDAL CURRENT ELLIPSE

STN J14 DEPTH 155 JOHNSTONE ST. 50 27.7 N 126 3.7 W
STARTING TIME OF ANALYSED DATA 2 MIN 15 HR 24 DAY 5 MON 78 YR
LENGTH OF DATA 6 DAYS 14 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 8.6 | .0 | 159.5 | 180.0 |
| K1 | 14.2 | .2 | 171.9 | 211.0 |
| M2 | 39.7 | .1 | 164.8 | 222.7 |
| M3 | 1.1 | .1 | 71.8 | 109.5 |
| M4 | 3.2 | .7 | 146.7 | 183.8 |
| 2MK5 | 2.7 | .2 | 10.1 | 216.4 |
| 2SK5 | 1.6 | -.8 | 18.0 | 102.2 |
| M6 | .7 | -.6 | 28.9 | 342.6 |
| 3MK7 | 1.1 | -.6 | 64.6 | 135.8 |
| M8 | 1.2 | -.1 | 70.0 | 172.0 |

TIDAL CURRENT ELLIPSE

STN J14 DEPTH 250 JOHNSTONE ST. . 50 27.7 N 126 3.7 W
STARTING TIME OF ANALYSED DATA 2 MIN 15 HR 24 DAY 5 MON 78 YR
LENGTH OF DATA 8 DAYS 14 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 7.7 | .0 | 172.7 | 180.0 |
| K1 | 13.4 | -.6 | 167.5 | 169.9 |
| M2 | 34.3 | 5.6 | 170.8 | 207.4 |
| M3 | 4.7 | -2.0 | 176.4 | 189.7 |
| M4 | 4.8 | -2.2 | 60.8 | 291.7 |
| 2MK5 | 3.8 | -.7 | 27.0 | 150.5 |
| 2SK5 | 1.2 | .5 | 166.8 | 121.0 |
| M6 | 1.1 | -.8 | 36.4 | 292.2 |
| 3MK7 | 1.4 | .6 | 34.7 | 86.7 |
| M8 | 1.4 | -1.0 | 130.0 | 152.1 |

TIDAL CURRENT ELLIPSE

STN J14  DEPTH 250      JOHNSTONE ST.          50 27.7 N  126  3.7 W
STARTING TIME OF ANALYSED DATA    0 MIN  15 HR  24 DAY   5 MON  78 YR
LENGTH OF DATA    8 DAYS  14 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 7.0 | .0 | 175.9 | 180.0 |
| K1 | 12.2 | -.3 | 170.6 | 168.2 |
| M2 | 30.9 | 5.7 | 173.8 | 206.5 |
| M3 | 4.3 | -2.1 | 178.2 | 193.9 |
| M4 | 4.5 | -2.7 | 69.5 | 287.2 |
| 2MK5 | 3.8 | .2 | 40.9 | 153.4 |
| 2SK5 | 1.2 | .2 | 170.9 | 124.0 |
| M6 | 1.6 | -.9 | 87.9 | 246.0 |
| 3MK7 | 1.2 | .4 | 42.9 | 88.7 |
| M8 | 1.2 | -.7 | 143.3 | 135.1 |

TIDAL CURRENT ELLIPSE

STN J15 DEPTH 055 JOHNSTONE ST. 50 27.3 N 126 4.1 W
STARTING TIME OF ANALYSED DATA 2 MIN 16 HR 24 DAY 5 MON 78 YR
LENGTH OF DATA 8 DAYS 13 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 7.3 | .0 | 2.1 | 180.0 |
| K1 | 8.9 | -2.6 | 163.3 | 253.7 |
| M2 | 28.7 | 6.5 | 163.9 | 222.1 |
| M3 | 6.8 | -1.0 | 114.9 | 93.4 |
| M4 | 3.5 | .7 | 103.3 | 13.9 |
| 2MK5 | 1.8 | 1.1 | 157.7 | 237.1 |
| 2SK5 | 2.1 | -.4 | 149.2 | 67.0 |
| M6 | 1.3 | .3 | 75.3 | 182.2 |
| 3MK7 | 3.3 | -1.1 | 82.7 | 33.1 |
| M8 | 1.3 | -.4 | 141.3 | 356.4 |

TIDAL CURRENT ELLIPSE

STN J15 DEPTH 160 JOHNSTONE ST. 50 27.3 N 126 4.1 W
STARTING TIME OF ANALYSED DATA 2 MIN 16 HR 24 DAY 5 MON 78 YR
LENGTH OF DATA 8 DAYS 13 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 12.2 | .0 | 146.4 | 180.0 |
| K1 | 11.2 | .3 | 167.6 | 183.0 |
| M2 | 35.5 | 1.1 | 161.7 | 209.1 |
| M3 | 3.1 | .6 | 127.4 | 65.0 |
| M4 | 3.1 | 1.0 | 156.4 | 19.0 |
| 2MK5 | 3.2 | .1 | 144.1 | 220.8 |
| 2SK5 | 1.5 | .3 | 39.9 | 335.2 |
| M6 | 1.5 | -.2 | 172.9 | 303.7 |
| 3MK7 | 1.0 | -.7 | 161.3 | 130.2 |
| M8 | .8 | .2 | 68.1 | 329.7 |

TIDAL CURRENT ELLIPSE

STN J15 DEPTH 255 JOHNSTONE ST. 50 27.3 N 126 4.1 W
STARTING TIME OF ANALYSED DATA 2 MIN 16 HR 24 DAY 5 MON 78 YR
LENGTH OF DATA 8 DAYS 13 HOURS

| CONSTITUENT | AMPLITUDES (CMS/SEC) | | INCLINATION | GREENWICH |
|---|---|---|---|---|
| NAME | MAJOR AXIS | MINOR AXIS | | PHASE LAG |
| Z0 | 10.1 | .0 | 156.0 | 180.0 |
| K1 | 8.3 | -.5 | 178.9 | 127.1 |
| M2 | 29.1 | 2.6 | 167.8 | 190.3 |
| M3 | 3.9 | -.9 | 26.7 | 313.2 |
| M4 | 3.2 | .7 | 112.4 | 283.7 |
| 2MK5 | 3.0 | 1.7 | 16.4 | 59.3 |
| 2SK5 | .4 | .3 | 4.6 | 290.9 |
| M6 | .8 | -.4 | 82.5 | 309.2 |
| 3MK7 | 1.1 | -.2 | 162.4 | 107.5 |
| M8 | 1.4 | .0 | 24.7 | 288.9 |

# TIDAL CURRENT ELLIPSE

STN J16  DEPTH 018  JOHNSTONE ST.  50 27.5 N  125 57.6 W
STARTING TIME OF ANALYSED DATA  2 MIN  13 HR  24 DAY  5 MON  78 YR
LENGTH OF DATA  8 DAYS  17 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 6.9 | .0 | 3.8 | 180.0 |
| K1 | 4.7 | 1.2 | 172.8 | 240.6 |
| M2 | 20.0 | -.9 | 178.9 | 184.1 |
| M3 | .4 | .1 | 123.1 | 340.9 |
| M4 | 2.3 | 1.5 | 140.0 | 250.5 |
| 2MK5 | .9 | -.7 | 132.0 | 135.1 |
| 2SK5 | 1.1 | -.3 | 149.2 | 286.3 |
| M6 | .7 | .0 | 26.6 | 276.3 |
| 3MK7 | .2 | .0 | 78.7 | 145.3 |
| M8 | .8 | -.3 | 86.6 | 153.7 |

TIDAL CURRENT ELLIPSE

STN J16  DEPTH 055      JOHNSTONE ST.          50 27.5 N  125 57.6 W
STARTING TIME OF ANALYSED DATA    2 MIN  13 HR  24 DAY   5 MON  78 YR
LENGTH OF DATA    8 DAYS  17 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 3.9 | .0 | 167.1 | 180.0 |
| K1 | 5.1 | -.6 | 148.3 | 210.3 |
| M2 | 7.8 | .5 | 4.0 | 9.7 |
| M3 | 2.3 | -.1 | 125.2 | 93.1 |
| M4 | 4.4 | .2 | 85.1 | 12.5 |
| 2MK5 | 2.6 | -.1 | 92.2 | 16.5 |
| 2SK5 | .9 | .4 | 111.5 | 109.8 |
| M6 | .7 | -.4 | 147.3 | 208.9 |
| 3MK7 | 1.1 | .8 | 21.5 | 242.7 |
| M8 | 1.4 | -.4 | 115.4 | 254.1 |

TIDAL CURRENT ELLIPSE

STN J17 DEPTH 195 JOHNSTONE ST. 50 26.3 N 126 0.6 W
STARTING TIME OF ANALYSED DATA 2 MIN 16 HR 24 DAY 5 MON 78 YR
LENGTH OF DATA 8 DAYS 14 HOURS

| CONSTITUENT NAME | AMPLITUDES (CMS/SEC) MAJOR AXIS | MINOR AXIS | INCLINATION | GREENWICH PHASE LAG |
|---|---|---|---|---|
| Z0 | 29.6 | .0 | 130.1 | 180.0 |
| K1 | 10.3 | -1.1 | 130.7 | 146.2 |
| M2 | 30.7 | -4.9 | 129.9 | 192.7 |
| M3 | 5.7 | .1 | 131.4 | 105.1 |
| M4 | 9.5 | -.2 | 100.7 | 41.8 |
| 2MK5 | 4.0 | .0 | 174.2 | 206.3 |
| 2SK5 | 2.4 | .2 | 16.0 | 169.9 |
| M6 | 5.2 | 3.3 | 12.3 | 98.2 |
| 3MK7 | 4.1 | 1.7 | 29.9 | 299.4 |
| M8 | 1.9 | .2 | 127.3 | 298.0 |

TIDAL HEIGHT CONSTITUENTS

STN TGN JOHNSTONE STRAIT 50 29.8 N 126 11.8 W
STARTING TIME OF ANALYSED DATA 0 MIN 12 HR 23 DAY 6 MON 76 YR
LENGTH OF DATA 222 DAYS 21 HOURS

| CONSTITUENT | AMPLITUDE (MBARS) | GREENWICH PHASE LAG |
|---|---|---|
| Z0 | .9 | 180.0 |
| SSA | 7.5 | 178.0 |
| MSM | 2.3 | 348.5 |
| MM | 1.7 | 99.4 |
| MSF | 1.0 | 266.8 |
| MF | 2.3 | 112.9 |
| ALP1 | .2 | 140.9 |
| 2Q1 | .5 | 148.7 |
| SIG1 | .8 | 167.5 |
| Q1 | 5.5 | 132.1 |
| RHO1 | .9 | 134.0 |
| O1 | 32.5 | 129.5 |
| TAU1 | .3 | 258.4 |
| BET1 | .6 | 146.9 |
| NO1 | 1.9 | 167.1 |
| CHI1 | .4 | 127.1 |
| P1 | 17.9 | 136.1 |
| K1 | 55.0 | 138.5 |
| PHI1 | .8 | 165.9 |
| THE1 | .7 | 152.2 |
| J1 | 2.9 | 161.3 |
| SO1 | .9 | 241.3 |
| OO1 | 1.9 | 167.6 |
| UPS1 | .3 | 197.5 |
| OQ2 | .2 | 21.1 |
| EPS2 | .6 | 4.5 |
| 2N2 | 2.9 | 351.8 |
| MU2 | 4.0 | 4.5 |
| N2 | 25.2 | 17.7 |
| NU2 | 4.9 | 20.7 |
| M2 | 120.9 | 36.9 |
| MKS2 | 1.0 | 123.2 |
| LDA2 | .5 | 99.9 |
| L2 | 1.4 | 32.3 |
| S2 | 39.3 | 56.0 |
| K2 | 10.0 | 51.8 |
| MSN2 | .4 | 120.4 |

CONTINUED

TIDAL HEIGHT CONSTITUENTS

STN TGN JOHNSTONE STRAIT 50 29.8 N 126 11.8 W

| CONSTITUENT | AMPLITUDE (MBARS) | GREENWICH PHASE LAG |
|---|---|---|
| ETA2 | .9 | 74.3 |
| MO3 | 3.2 | 77.9 |
| M3 | 1.0 | 341.9 |
| SO3 | 1.5 | 99.2 |
| MK3 | 1.7 | 92.6 |
| SK3 | 1.5 | 116.1 |
| MN4 | .2 | 82.9 |
| M4 | .3 | 319.0 |
| SN4 | .2 | 177.9 |
| MS4 | .5 | 120.5 |
| MK4 | .3 | 327.7 |
| S4 | .5 | 194.2 |
| SK4 | .3 | 262.7 |
| 2MK5 | 1.4 | 231.6 |
| 2SK5 | .1 | 94.7 |
| 2MN6 | 1.6 | 197.8 |
| M6 | 2.8 | 217.8 |
| 2MS6 | 2.4 | 243.4 |
| 2MK6 | .6 | 246.7 |
| 2SM6 | .5 | 267.1 |
| MSK6 | .3 | 269.7 |
| 3MK7 | .1 | 337.7 |
| M8 | .1 | 157.7 |

TIDAL HEIGHT CONSTITUENTS

STN TGS JOHNSTONE STRAIT 50 28.4 N 126 14.5 W
STARTING TIME OF ANALYSED DATA 0 MIN 11 HR 23 DAY 6 MON 76 YR
LENGTH OF DATA 220 DAYS 20 HOURS

| CONSTITUENT | AMPLITUDE (MBARS) | GREENWICH PHASE LAG |
|---|---|---|
| Z0 | .3 | 180.0 |
| SSA | 3.6 | 155.8 |
| MSM | 1.5 | 337.9 |
| MM | 1.1 | 71.7 |
| MSF | 1.0 | 286.1 |
| MF | 2.2 | 110.1 |
| ALP1 | .2 | 126.8 |
| 2Q1 | .6 | 143.7 |
| SIG1 | .8 | 170.0 |
| Q1 | 5.5 | 132.3 |
| RHO1 | .9 | 139.9 |
| O1 | 32.5 | 130.3 |
| TAU1 | .4 | 247.1 |
| BET1 | .6 | 140.3 |
| NO1 | 1.9 | 168.0 |
| CHI1 | .5 | 134.0 |
| P1 | 17.8 | 136.5 |
| K1 | 54.9 | 138.9 |
| PHI1 | .8 | 165.6 |
| THE1 | .7 | 156.6 |
| J1 | 2.9 | 161.2 |
| SO1 | .9 | 242.1 |
| OO1 | 1.9 | 167.1 |
| UPS1 | .3 | 198.4 |
| OQ2 | .2 | 16.5 |
| EPS2 | .6 | 5.2 |
| 2N2 | 3.0 | 353.0 |
| MU2 | 4.0 | 4.3 |
| N2 | 25.6 | 18.0 |
| NU2 | 4.7 | 23.7 |
| M2 | 122.0 | 37.4 |
| MKS2 | .6 | 156.2 |
| LDA2 | .4 | 92.3 |
| L2 | 1.5 | 31.8 |
| S2 | 39.7 | 56.7 |
| K2 | 10.0 | 51.6 |
| MSN2 | .4 | 128.4 |

CONTINUED

TIDAL HEIGHT CONSTITUENTS

STN TGS    JOHNSTONE STRAIT    50 28.4 N  126 14.5 W

| CONSTITUENT | AMPLITUDE (MBARS) | GREENWICH PHASE LAG |
|---|---|---|
| ETA2 | .9 | 79.4 |
| MO3 | 3.2 | 81.5 |
| M3 | 1.0 | 341.9 |
| SO3 | 1.5 | 99.2 |
| MK3 | 1.7 | 101.7 |
| SK3 | 1.5 | 120.2 |
| MN4 | .4 | 125.7 |
| M4 | .3 | 214.1 |
| SN4 | .2 | 162.7 |
| MS4 | .5 | 152.6 |
| MK4 | .3 | 318.2 |
| S4 | .5 | 199.6 |
| SK4 | .3 | 259.3 |
| 2MK5 | 1.5 | 236.0 |
| 2SK5 | .2 | 84.7 |
| 2MN6 | 1.5 | 201.9 |
| M6 | 2.7 | 222.2 |
| 2MS6 | 2.3 | 247.8 |
| 2MK6 | .6 | 252.8 |
| 2SM6 | .5 | 267.4 |
| MSK6 | .3 | 269.6 |
| 3MK7 | .1 | 308.1 |
| M8 | .2 | 162.3 |

TIDAL HEIGHT CONSTITUENTS

STN TGE JOHNSTONE STRAIT 50 26.4 N 125 58.3 W
STARTING TIME OF ANALYSED DATA 0 MIN 12 HR 1 DAY 2 MON 77 YR
LENGTH OF DATA 100 DAYS 0 HOURS

| CONSTITUENT | AMPLITUDE (MBARS) | GREENWICH PHASE LAG |
|---|---|---|
| Z0 | .1 | 180.0 |
| MM | 1.1 | 50.9 |
| MSF | 3.7 | 153.6 |
| ALP1 | .3 | 157.5 |
| 2Q1 | .9 | 234.1 |
| Q1 | 4.9 | 143.8 |
| O1 | 33.8 | 127.5 |
| NO1 | 2.7 | 163.7 |
| P1 | 19.1 | 138.5 |
| K1 | 58.8 | 140.9 |
| J1 | 5.1 | 151.5 |
| OO1 | 2.1 | 188.8 |
| UPS1 | 1.3 | 36.7 |
| EPS2 | .5 | 310.0 |
| MU2 | 4.2 | 340.7 |
| N2 | 24.2 | 26.0 |
| M2 | 116.9 | 41.2 |
| L2 | 1.4 | 81.4 |
| S2 | 43.7 | 62.1 |
| ETA2 | 2.3 | 62.5 |
| MO3 | 3.1 | 81.6 |
| M3 | 1.1 | .8 |
| MK3 | 1.2 | 112.1 |
| SK3 | 1.7 | 113.1 |
| MN4 | .5 | 190.0 |
| M4 | 2.4 | 208.7 |
| SN4 | .3 | 120.1 |
| MS4 | 1.1 | 197.8 |
| S4 | .2 | 159.5 |
| 2MK5 | 1.2 | 213.8 |
| 2SK5 | .4 | 272.5 |
| 2MN6 | 2.1 | 206.8 |
| M6 | 3.6 | 219.9 |
| 2MS6 | 3.7 | 249.9 |
| 2SM6 | .9 | 277.6 |
| 3MK7 | .0 | 144.5 |
| M8 | .3 | 144.4 |

TIDAL HEIGHT CONSTITUENTS

STN TGS JOHNSTONE STRAIT 50 28.4 N 126 14.5 W
STARTING TIME OF ANALYSED DATA 0 MIN 10 HR 1 DAY 2 MON 77 YR
LENGTH OF DATA 101 DAYS 22 HOURS

| CONSTITUENT | AMPLITUDE (MBARS) | GREENWICH PHASE LAG |
|---|---|---|
| Z0 | .0 | 180.0 |
| MM | 1.2 | 19.0 |
| MSF | 2.7 | 141.6 |
| ALP1 | .3 | 232.3 |
| 2Q1 | .4 | 243.3 |
| Q1 | 5.1 | 144.7 |
| O1 | 32.0 | 126.9 |
| NO1 | 2.2 | 167.7 |
| P1 | 18.5 | 137.0 |
| K1 | 57.0 | 139.4 |
| J1 | 5.3 | 154.2 |
| OO1 | 2.1 | 157.6 |
| UPS1 | .5 | 14.1 |
| EPS2 | .5 | 322.6 |
| MU2 | 3.6 | 340.5 |
| N2 | 24.9 | 22.7 |
| M2 | 122.2 | 37.5 |
| L2 | 1.6 | 54.9 |
| S2 | 44.7 | 59.2 |
| ETA2 | 2.2 | 66.5 |
| MO3 | 2.8 | 79.5 |
| M3 | 1.1 | 349.7 |
| MK3 | 1.2 | 98.1 |
| SK3 | 1.7 | 116.9 |
| MN4 | .2 | 155.7 |
| M4 | .3 | 200.4 |
| SN4 | .2 | 109.3 |
| MS4 | .5 | 144.4 |
| S4 | .2 | 168.9 |
| 2MK5 | 1.1 | 221.9 |
| 2SK5 | .3 | 261.6 |
| 2MN6 | 1.7 | 204.1 |
| M6 | 3.0 | 218.0 |
| 2MS6 | 3.0 | 248.0 |
| 2SM6 | .8 | 273.3 |
| 3MK7 | .1 | 266.4 |
| M8 | .1 | 151.7 |

TIDAL HEIGHT CONSTITUENTS

STN TGW JOHNSTONE STRAIT 50 34.6 N 126 46.8 W
STARTING TIME OF ANALYSED DATA 0 MIN 11 HR 31 DAY 1 MON 77 YR
LENGTH OF DATA 103 DAYS 20 HOURS

| CONSTITUENT | AMPLITUDE (MBARS) | GREENWICH PHASE LAG |
|---|---|---|
| Z0 | .1 | .0 |
| MM | .3 | 21.0 |
| MSF | 2.5 | 142.6 |
| ALP1 | .7 | 266.1 |
| 2Q1 | .3 | 35.9 |
| Q1 | 5.5 | 139.0 |
| O1 | 31.6 | 127.6 |
| NO1 | 2.1 | 162.6 |
| P1 | 17.8 | 136.4 |
| K1 | 54.7 | 138.7 |
| J1 | 5.2 | 157.6 |
| OO1 | 2.4 | 120.1 |
| UPS1 | .2 | 19.1 |
| EPS2 | .9 | 320.8 |
| MU2 | 3.1 | 336.0 |
| N2 | 24.9 | 15.3 |
| M2 | 124.5 | 28.8 |
| L2 | 2.1 | 30.9 |
| S2 | 45.0 | 51.2 |
| ETA2 | 2.6 | 66.0 |
| MO3 | 2.4 | 96.4 |
| M3 | 1.3 | 343.1 |
| MK3 | 1.0 | 123.1 |
| SK3 | 1.3 | 90.5 |
| MN4 | .2 | 112.5 |
| M4 | .7 | 219.2 |
| SN4 | .4 | 267.1 |
| MS4 | .1 | 28.7 |
| S4 | .6 | 140.9 |
| 2MK5 | 1.6 | 226.6 |
| 2SK5 | .6 | 178.7 |
| 2MN6 | 1.2 | 211.6 |
| M6 | 2.5 | 231.3 |
| 2MS6 | 2.9 | 270.6 |
| 2SM6 | .3 | 259.0 |
| 3MK7 | .4 | 158.1 |
| M8 | .4 | 133.3 |

# DATA RECORD OF CURRENT OBSERVATIONS

## VOLUME VIII

## DISCOVERY PASSAGE, JOHNSTONE STRAIT AND QUEEN CHARLOTTE STRAIT

### PART 1 - WATER PROPERTY OBSERVATIONS
### 1976, 1977, 1978, (1979)

by R.E. Thomson, W.S. Huggett and L.S.C. Kuwahara



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## VOLUME VIII

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Institute of Ocean Sciences
Sidney, B.C.

1980

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## Abstract

This volume presents water property data for the region extending from the northern Strait of Georgia to the southeast corner of Queen Charlotte Sound. It complements Volume VII of this series which covers the current and tide measurements taken in the waterway over the same period. Data presented in this report span the period from April 1976 to August 1979 and include temperature, salinity, density, sound speed, dissolved oxygen, nutrients (nitrate, phosphate, and silicate), transmissivity, and surficial sediments.

Part 1 presents the data in plot form while Part 2 (Appendices A to E) provides listings of the data.

## 1. Introduction

Discovery Passage, Johnstone Strait and Queen Charlotte Strait comprise a narrow, 100 km long section of the "inside passage" which separates Vancouver Island from the mainland of British Columbia (Figure 1). This report deals primarily with mid-channel water property data from these regions as derived from CTD (conductivity/temperature/depth) and hydro-cast profiles.* Other data reported are from Station SG1 at the northern end of the Strait of Georgia and from QD1 at the southeast corner of Queen Charlotte Sound. Oceanographic data are also presented for cross-channel locations in Johnstone Strait and for two secondary basins, Sunderland Channel and Nodales Channel, adjoining the main passageway.

Measurements in Johnstone Strait and Discovery Passage span the period from April 1976 to August 1979, those in Queen Charlotte Strait from January 1977 to August 1979 (Table 1). In all, sixteen separate transects were completed of which nine took place between January 1977 and January 1978 at roughly bi-monthly intervals. Data reported here are temperatures, salinity, sigma-t ($\sigma_t$), sound speed, dissolved oxygen and nutrients (nitrate, phosphate and silicate). Included also are along-channel transmissometer measurements taken in June 1976 and a qualitative description of surficial bottom sediments in the western basin of Johnstone Strait based on bottom grabs taken in July and November 1977.

In addition to various sections of water properties derived from each of the sixteen transects of the region, data are presented for hourly time-series observations taken at fixed locations for periods ranging from five to thirty-seven hours. With the exception of two time-series locations in Queen Charlotte Strait, one at the southeast corner of Queen Charlotte Sound and one in Sunderland Channel, the time-series observations were confined to Johnstone Strait with particular emphasis given to the region of the sill west of Kelsey Bay (Figure 1). (Henceforth the latter will be referred to as Newcastle Sill.) Information on the physical oceanography of the main channels prior to 1976 can be found in Herlinveaux and Giovando (1969), Thomson (1976), Huggett *et al.* (1976) and Thomson (1977). An investigation of $M_2$ baroclinic tides in the western basin of Johnstone Strait is given by Thomson and Huggett (1980). Sediment distributions within the inside passage have been discussed by Cockbain (1963); a preliminary note on surficial sediments collected for this report has been given by Thomson and Luternauer (1978) and Luternauer *et al.* (1979).

The oceanographic surveys of May to September 1977 were extended northward to include Queen Charlotte Sound, Hecate Strait and the approaches to Douglas Channel. Resulting data will appear in subsequent reports in this series.

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* Volume VII deals with the tides and currents data. A preliminary analysis and interpretation of the main oceanographic features of the region will appear in a later volume.

## 2. Data Collection and Processing

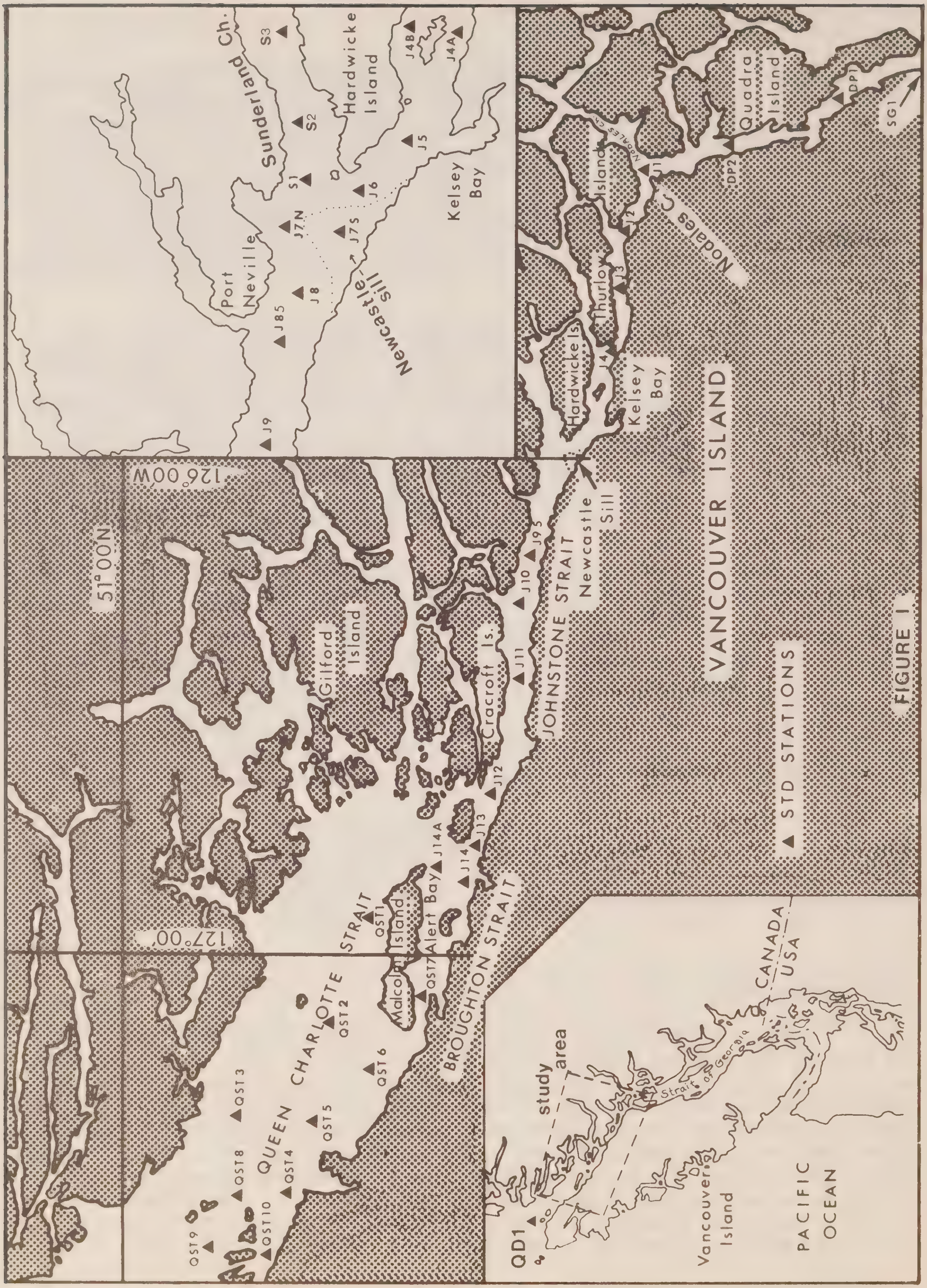
Water property measurements, with the exception of those of August 1979, were obtained from separate CTD and Niskin bottle (hydro)casts. In the former case, samples were collected using a Bisset-Berman Rosette sampler attached about a metre above the CTD. The CTDs allowed rapid continuous profiling of the temperature and salinity structure while the water bottles provided both calibration data for the CTD and samples for determination of dissolved oxygen and nutrient concentrations. Transmissometer measurements gave an indication of the early-summer water clarity and bottom grabs gave detailed information on the types of surficial sediments in the deeper western basin of Johnstone Strait.

Aside from the November 1977 and August 1979 cruises, the water property surveys were coincident with times of moored current meter records (Volume VII). In the relatively narrow (2-4 km) Discovery Passage to Johnstone Strait section of the waterway, observations were usually confined to the deeper mid-channel locations (Figure 1). Exceptions were: the cross-channel observations obtained in April and June, 1976, in Johnstone Strait; cross-channel CTD time-series surveys conducted for periods of about 25 hours each in January 1977, November 1977, May 1978 and August 1979 in the vicinity of Newcastle sill, Johnstone Strait; and a set of three, 25-hour diamond-shaped time-series grids surveyed in November 1977 in the western section of Johnstone Strait (Figure 2). (The latter data were obtained using a newly designed shear probe consisting of an acoustic current meter and Guildline CTD; owing to a lack of calibration data the results from this time-series are not included in the present report.) Within the comparatively broad (25-30 km) Queen Charlotte Strait, observations covered both sides of the channel. Beginning with the May 1977 cruise, additional water property stations were occupied in Goletas and Gordon Channels, which connect the Strait to Queen Charlotte Sound, and at the junction of the Sound to these channels (Station QD1). Other data included in this report are from Nodales and Sunderland Channels (semi-enclosed basins adjoining Johnstone Strait).

Table 1 lists the dates and identification numbers for the various cruises together with the main region of study and the name of the research vessel. Station names and geographical locations for the CTD, hydro and time-series observations are presented in Table 2. Positions are also given in the header for each CTD station listed in the Appendices.

*CTD Observations*

Profiles of physical water properties were obtained using either an 8100 or 8700-series Guildline CTD lowered from the stern of the ship via a 5/16" (8 mm) diameter, 7-conductor armegraph cable. Output from the probe consisted of analogue voltages of temperature, conductivity (salinity), and pressure calibrated for the full-scale ranges of 0 to 25°C, 0 to 40‰, and 0 to 1500 dbar, respectively. The probe output was fed into a Guildline deck unit where part of the signal was converted to temperature, salinity and pressure values for plotting on calibrated graph paper. The latter traces provided real-time displays of the temperature and salinity profiles and served as back-up to the tape storage system. The remaining branch of the



Port Neville
Sunderland Ch.
Hardwicke Island
Kelsey Bay
Newcastle Sill
S1
S2
S3
J4A
J4B
J5
J6
J7N
J7S
J8
J85
J9
Nodales Ch.
Thurlow Islands
Hardwicke Is.
Quadra Island
DP1
DP2
SG1
J1
J2
J3
J4
51°00'N
126°00'W
127°00'
Gilford Island
Cracroft Is.
JOHNSTONE STRAIT
J10
J11
J12
J13
J14
J14A
J95
VANCOUVER ISLAND
▲ STD STATIONS
Alert Bay
Malcolm Island
QUEEN CHARLOTTE STRAIT
BROUGHTON STRAIT
QST1
QST2
QST3
QST4
QST5
QST6
QST7
QST8
QST9
QST10
QD1
study area
Strait of Georgia
CANADA
USA
Vancouver Island
PACIFIC OCEAN


FIGURE I.

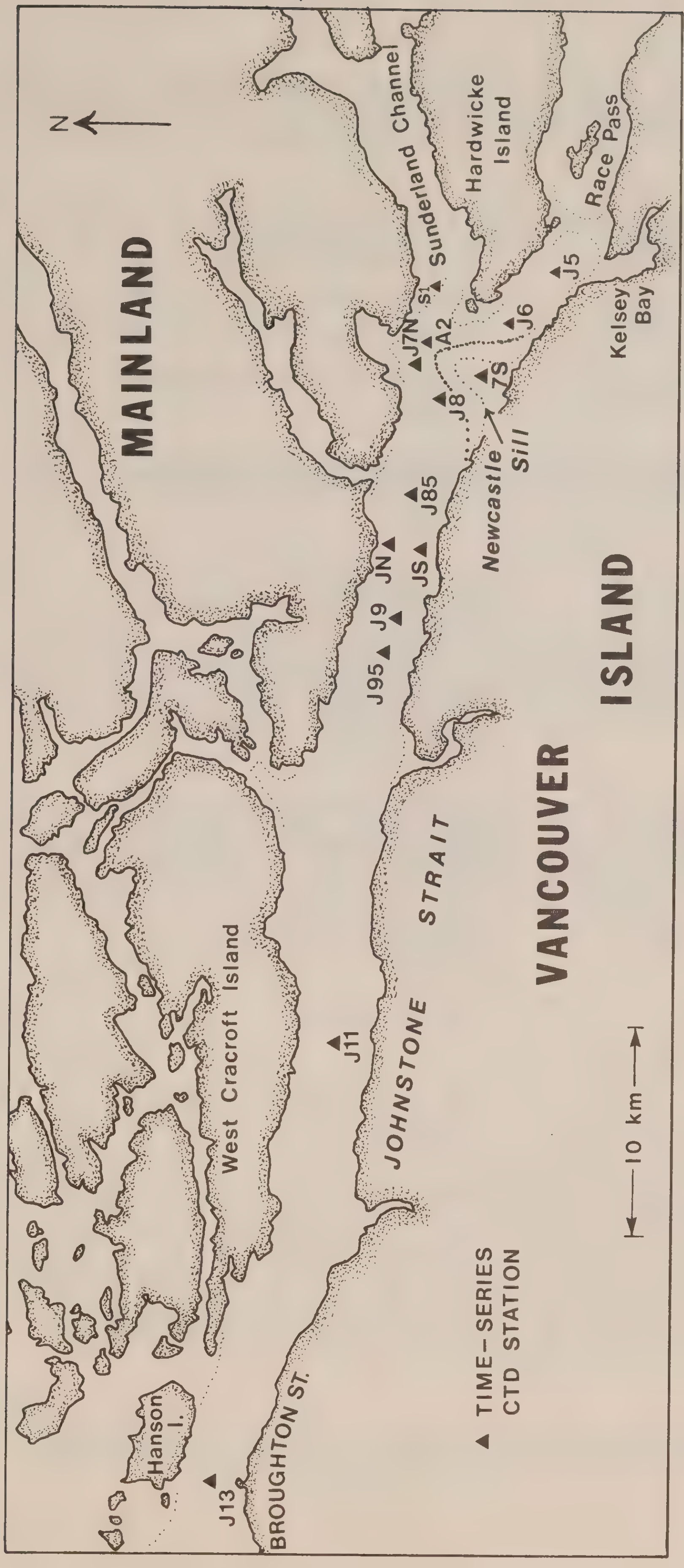

N
MAINLAND
VANCOUVER ISLAND
JOHNSTONE STRAIT
West Cracroft Island
Hanson I.
BROUGHTON ST.
Sunderland Channel
Hardwicke Island
Race Pass
Kelsey Bay
Newcastle Sill
J13
J11
J95
J9
JN
JS
J85
J8
J7N
7S
A2
S1
J6
J5
10 km
TIME-SERIES CTD STATION

FIGURE 2

TABLE 1. Cruise identification number versus period of CTD-hydro observations, principal region of study (current meters, time series, CTD's...) and research vessel.

| CRUISE ID | OBSERVATION PERIOD | PRINCIPAL REGIONS OF INVESTIGATION | RESEARCH VESSEL |
|---|---|---|---|
| 76-20 | 21-28 Apr. 1976 | Johnstone Strait and Discovery Passage | CSS *Vector* |
| 76-22 | 21-26 June 1976 | Johnstone Strait and Discovery Passage | CSS *Vector* |
| 77-10 | 28 Jan - 1 Feb. 1977 | Johnstone Strait, Discovery Passage and Queen Charlotte Strait | CSS *Parizeau* |
| 77-11 | 2-8 March 1977 | Johnstone Strait, Discovery Passage and Queen Charlotte Strait | CSS *Parizeau* |
| 77-12 | 11-23 May 1977 | Johnstone Strait, Discovery Passage, Queen Charlotte Strait, Queen Charlotte Sound and Hecate Strait | CSS *Parizeau* |
| 77-13 | 14-24 July 1977 | Queen Charlotte Strait, Queen Charlotte Sound and Hecate Strait | CNAV *Endeavour* |
| 77-14 | 20-28 Sept. 1977 | Queen Charlotte Strait, Queen Charlotte Sound and Hecate Strait | CSS *Parizeau* |
| 77-15 | 14-21 Nov. 1977 | Johnstone Strait | CSS *Parizeau* |
| 78-10 | 9-19 Jan. 1978 | Juan de Fuca Strait to Queen Charlotte Strait | CSS *Parizeau* |
| 78-15 | 23 May - 2 June 1978 | Johnstone Strait | CSS *Parizeau* |
| 79-14 | 3-14 August 1979 | Johnstone Strait | MV *Pandora II* |

TABLE 2. Names, locations and depths of CTD/hydro stations occupied from April 1976 to August 1979 during inside passage surveys. An "x" in the last three columns signifies types of observations at each station. SG ≡ Strait of Georgia; DP ≡ Discovery Passage, J ≡ Johnstone Strait (Broughton Strait); QST ≡ Queen Charlotte Strait; QD ≡ Queen Charlotte Sound; N ≡ Nodales Channel; S ≡ Sunderland Channel. Water depths can vary more than ±20 m in the vicinity of a given station.

A. MAIN TRANSECT STATIONS

| STATION ID | APPROXIMATE LOCATION | LATITUDE (°N) | LONGITUDE (°W) | APPROX. DEPTH (m) | STD | HYDRO | TIME SERIES |
|---|---|---|---|---|---|---|---|
| SG1 | Kuhushan Point | 49°55.0' | 125°05.5' | 150 | x | x | |
| DP1 | Duncan Bay | 50°05.1' | 125°16.4' | 100 | x | | |
| DP2 | McMullen Point | 50°14.8' | 125°23.0' | 240 | x | x | |
| J1 | Chatham Point | 50°20.7' | 125°25.5' | 330 | x | x | |
| J2 | Ripple Point | 50°22.2' | 125°33.5' | 225 | x | | |
| J3 | Bear Bight | 50°22.3' | 125°39.0' | 270 | x | x | |
| J4 | Tyee Point | 50°22.7' | 125°47.0' | 145 | x | | |
| J4A | Race Passage | 50°23.6' | 125°53.4' | 220 | x | (x) | |
| J5 | Kelsey Bay | 50°24.6' | 125°56.8' | 205 | x | | x |
| J6 | Fanny Island | 50°26.4' | 126°00.7' | 205 | x | x | x |
| J7N | (Newcastle) sill | 50°27.85' | 126°01.4' | 240 | x | | x |
| J7S | " " | 50°26.90' | 126°02.2' | 90 | x | | x |
| J8 | Hickey Point | 50°27.6' | 126°03.4' | 255 | x | x | x |
| J9 | Windy Point | 50°28.6' | 126°10.7' | 330 | x | x | x |
| J10 | Broken Islands | 50°29.8' | 126°18.7' | 355 | x | (x) | |
| J11 | - | 50°30.0' | 126°30.0' | 390 | x | x | x |
| J12 | Cracroft Point | 50°31.8' | 126°41.0' | 500 | x | x | |
| J13 | Blinkhorn Peninsula | 50°33.3' | 126°47.1' | 475 | x | x | x |
| J14 | Lewis Pt., Broughton St. | 50°34.0' | 126°52.1' | 150 | x | x | |
| J14A | Weynton Passage | 50°36.4' | 126°50.0' | 145 | x | x | x |
| QST1 | George Passage | 50°41.9' | 126°55.5' | 200 | x | x | x |
| QST2 | Numas Islands | 50°45.0' | 127°08.3' | 175 | x | | |
| QST3 | Browning Islands | 50°51.0' | 127°20.0' | 140 | x | x | |
| QST4 | Duval Pt., Goletas Channel | 50°47.0' | 127°29.0' | 360 | x | x | |
| QST5 | Round Island | 50°45.0 | 127°20.0' | 260 | x | | |
| QST6 | Single Tree Pt. | 50°40.5' | 127°13.5' | 120 | x | x | x |
| QST7 | Ledge Pt., Broughton Strait | 50°37.3' | 127°05.0' | 70 | x | | |

TABLE 2. (CONTINUED)

| STATION ID | APPROXIMATE LOCATION | LATITUDE ($^oN$) | LONGITUDE ($^oW$) | APPROX. DEPTH (m) | STD | HYDRO | TIME SERIES |
|---|---|---|---|---|---|---|---|
| QST8 | Crane Is., Gordon Channel | $50^o50.9'$ | $127^o30.0'$ | 130 | x | x | |
| QST9 | Scarlett Pt., Gordon Channel | $50^o52.7'$ | $127^o35.7'$ | 365 | x | x | |
| QST10 | Noble Islets, Goletas Channel | $50^o48.4'$ | $127^o35.6'$ | 420 | x | x | |
| QD1 | Pine Island | $51^o01.2'$ | $127^o54.6'$ | 130 | x | x | |
| B. SECONDARY STATIONS (non-time series) | | | | | | | |
| J4B | Race Passage | $50^o24.70'$ | $125^o52.7'$ | 155 | x | | |
| J6N | North of J6 | $50^o26.85'$ | $126^o00.0'$ | 110 | x | | |
| J6S | South of J6 | $50^o26.00'$ | $126^o01.2'$ | 180 | x | | |
| J8N | North of J8 | $50^o28.30'$ | $126^o02.9'$ | 185 | x | | |
| J8S | South of J8 | $50^o27.00'$ | $126^o04.1'$ | 185 | x | | |
| J9N | North of J9 | $50^o29.15'$ | $126^o10.5'$ | 185 | x | | |
| J9S | South of J9 | $50^o28.00'$ | $126^o11.0'$ | 205 | x | | |
| J10N | North of J10 | $50^o30.50'$ | $126^o18.4'$ | 185 | x | | |
| J10S | South of J10 | $50^o29.20'$ | $126^o19.2'$ | 185 | x | | |
| J11N | North of J11 | $50^o30.80'$ | $126^o30.0'$ | 185 | x | x | |
| J11S | South of J11 | $50^o29.40'$ | $126^o30.0'$ | 185 | x | x | |
| J13N | North of J13 | $50^o33.60'$ | $126^o46.9'$ | 185 | x | | |
| J13S | South of J13 | $50^o32.90'$ | $126^o47.4'$ | 185 | x | | |
| N1 | Davis Point | $50^o23.0'$ | $125^o47.4'$ | 185 | x | | |
| N2 | Sonora Point | $50^o25.6'$ | $125^o18.9'$ | 285 | x | | |
| N3 | Owen Point | $50^o27.2'$ | $125^o18.9'$ | 210 | x | | |
| N4 | Phillip Arm (mouth) | $50^o28.5'$ | $125^o21.9'$ | 125 | x | x | |
| N5 | Richard Pt. (Phillip Arm) | $50^o29.8'$ | $125^o21.9'$ | 60 | x | x | |
| N6 | Phillip Arm | $50^o31.0'$ | $125^o22.0'$ | 50 | x | x | |
| N7 | Phillip Arm (Dyer Point) | $50^o32.5'$ | $125^o21.9'$ | 40 | x | x | |
| N8 | Phillip Arm (Head) | $50^o32.4'$ | $125^o21.7'$ | 35 | x | x | |
| S1 | Fanny Island | $50^o27.7'$ | $125^o59.3'$ | 100 | x | x | |
| S2 | - | $50^o27.9'$ | $125^o55.8'$ | 60 | x | | |
| S3 | Seymour Island | $50^o28.2'$ | $125^o52.2'$ | 210 | x | x | |
| S4 | Althorp Point | $50^o28.0'$ | $125^o47.9'$ | 150 | x | | |

TABLE 2. (CONTINUED)

C. SECONDARY STATIONS (time series)

| STATION ID | APPROXIMATE LOCATION | LATITUDE (°N) | LONGITUDE (°W) | APPROX. DEPTH (m) | STD | HYDRO | TIME SERIES |
|---|---|---|---|---|---|---|---|
| S1 | Fanny Island | 50°27.7' | 125°59.3' | 100 | x | x | x |
| J85 | Neville Point | 50°28.5' | 126°07.0' | 325 | x | x | x |
| J95 | Stimpson Reef | 50°28.7' | 126°11.5' | 350 | x | | x |
| A2 | North of Newcastle Sill | 50°27.7' | 126°01.2' | 245 | x | | x |

output signal was input into a 2100-series HP computer, digitized at a rate of 10 samples per second and stored on a 9-track magnetic tape through a HP7970B digital tape unit. For variable rates of probe descent from 0.5 to 1.5 $ms^{-1}$ this yielded vertical scale resolutions of order 10 cm. As well as being recorded on tape, digitized records were converted and listed every 5 m on a teletype (or high speed printer). This allowed real-time monitoring of tape recorded data and enabled the operator to safely lower the probe to within a few metres of the seafloor. During each cruise, the absolute zero-depth voltage offset was established with the temperature and conductivity sensors a few centimetres below the sea surface in flat calm conditions. The offset was subtracted from subsequent pressure voltages.

Following each cruise, the raw voltages were converted to temperature, salinity and pressure and the data edited. For combined CTD and hydro cast stations, standard depth values were compared and correction curves for the CTDs determined. Results from these comparisons are presented in Figure 3. Although the standard deviations were significant in most cases (e.g. Figures 3a, b, e, f) the mean correction curves were generally within the manufacturer's specified accuracies for temperature, salinity and pressure of 0.03$^{o}$C, 0.05$^{o}$/oo and 1% respectively. The variances are in part attributable to the delay of 30 to 60 minutes between the CTD and hydro casts and to the presence of vertical property gradients, especially at depths shallower than 150 m. The pronounced salinity offsets for cruises 77-10 and 77-11 have been attributed to grounding problems.

All temperature, salinity, sigma-t and sound speed values have been derived from the hydro-corrected CTD profiles. In the along-channel property sections of §3, the first and last casts of a time-series station have been used. As a consequence, discontinuous contours occur at most time-series stations owing to flow-induced differences in the depths of given isopleths. Cross-channel sections of temperature, salinity and sigma-t are plotted in §4 while data from hourly time-series CTD locations are presented in §5. Listings of CTD observational data from the transects and the time-series locations are separately presented in Appendices A and B, respectively. Except above 50 m depth, listings are in 25 m depth increments.

*Niskin bottle observations*

Hydro-cast observations using 1.7 litre Niskin bottles at standard depths were obtained at approximately each alternate survey station roughly 30 to 60 minutes after the CTD cast. (During Cruise 79-14 a Rosette sampler was used to collect water samples on the up portion of the CTD cast.) Reversing thermometers attached to each water bottle were given 5 minutes to reach *in situ* temperatures prior to release of the messanger; bottles deeper than 250 m carried both protected and unprotected thermometers so that depths could be calculated. Water samples were drawn immediately after each cast. Dissolved oxygen data span the entire observation period whereas nutrient data are limited to the period from January to September 1977.

*Dissolved oxygen* samples were drawn into 125 mL flasks and immediately pickled. Samples were analyzed within 24 hours of collection using a micro-Winkler technique (de Jong, 1974) which, for the typical range

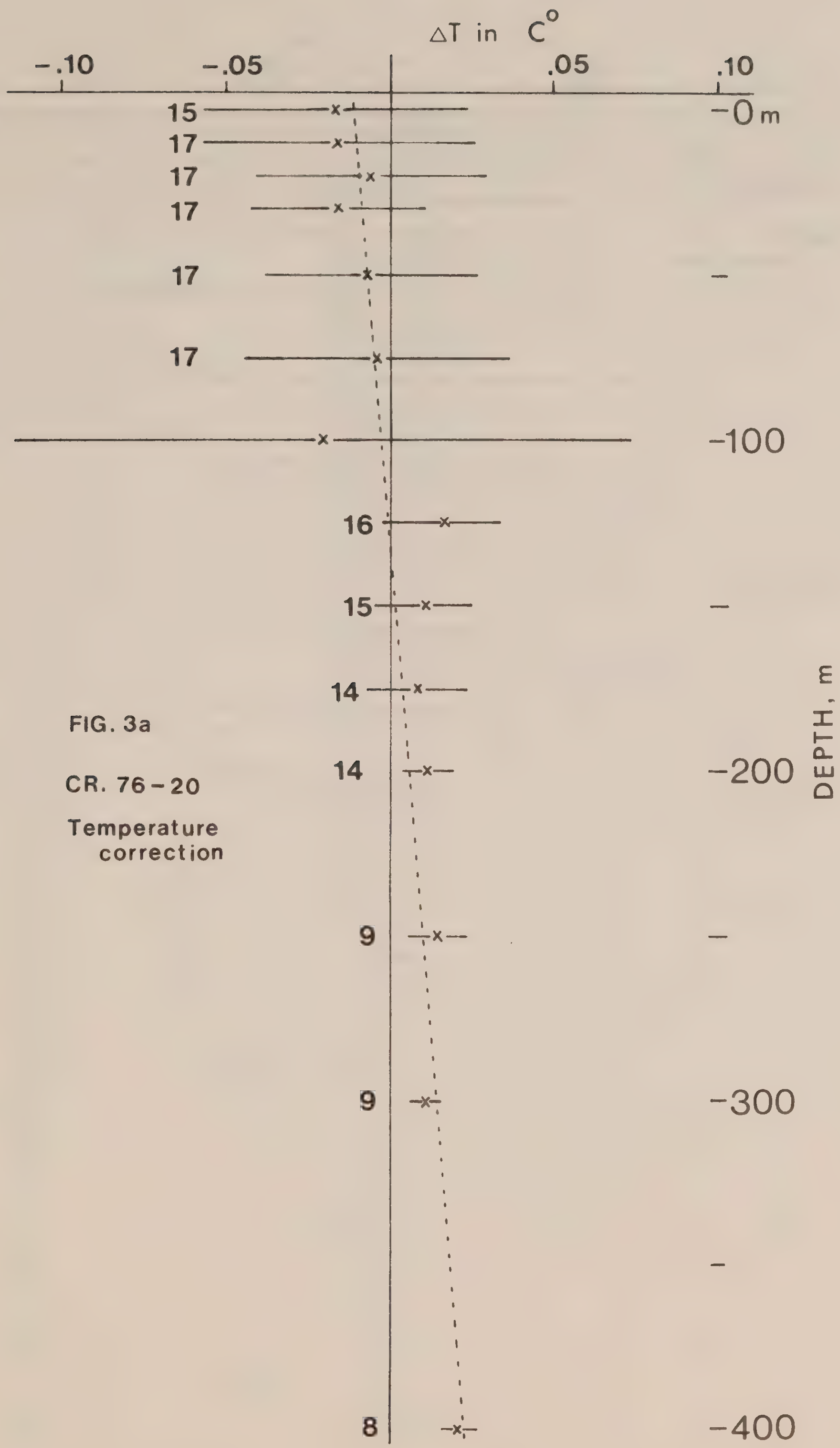



FIG. 3a

CR. 76-20

Temperature correction

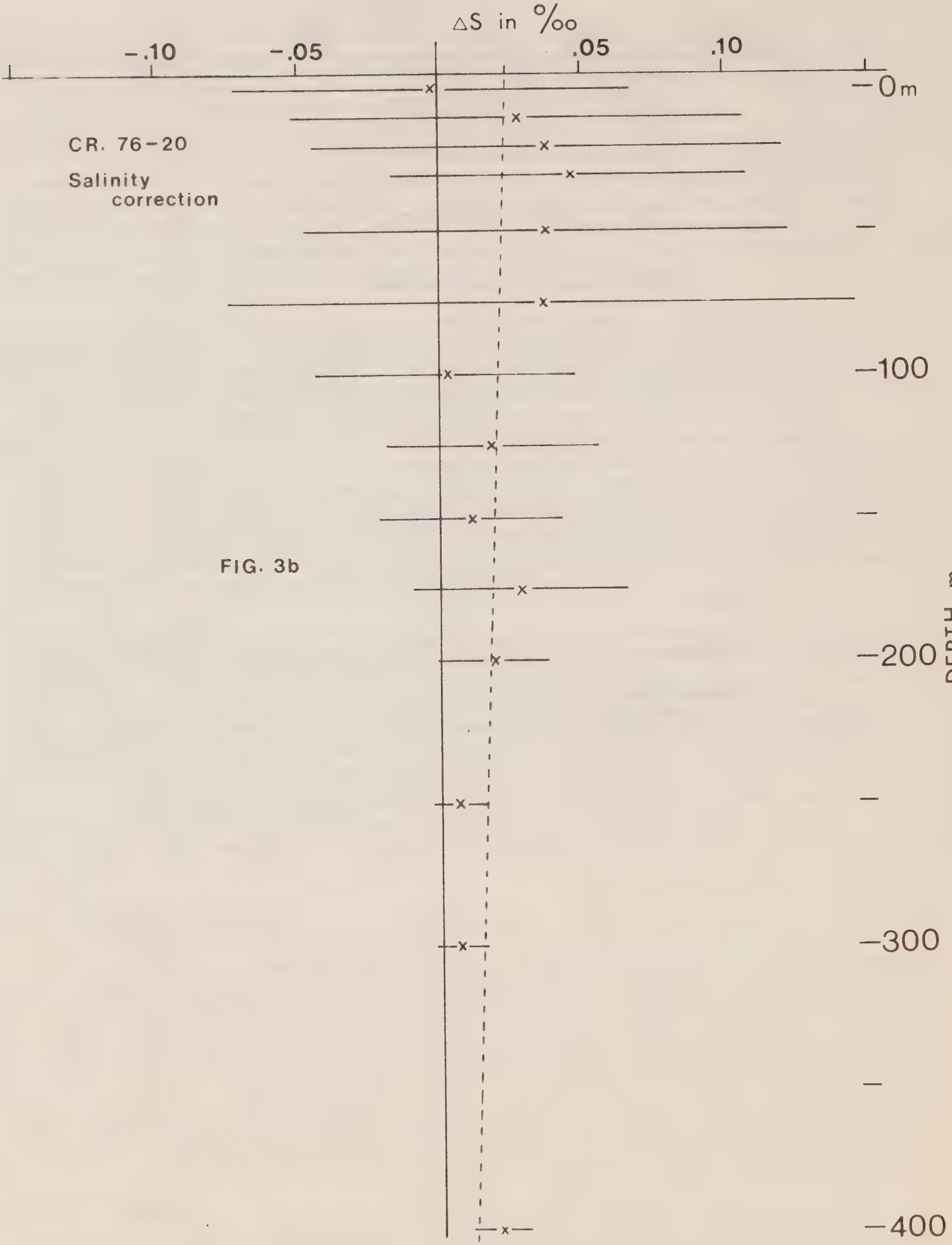
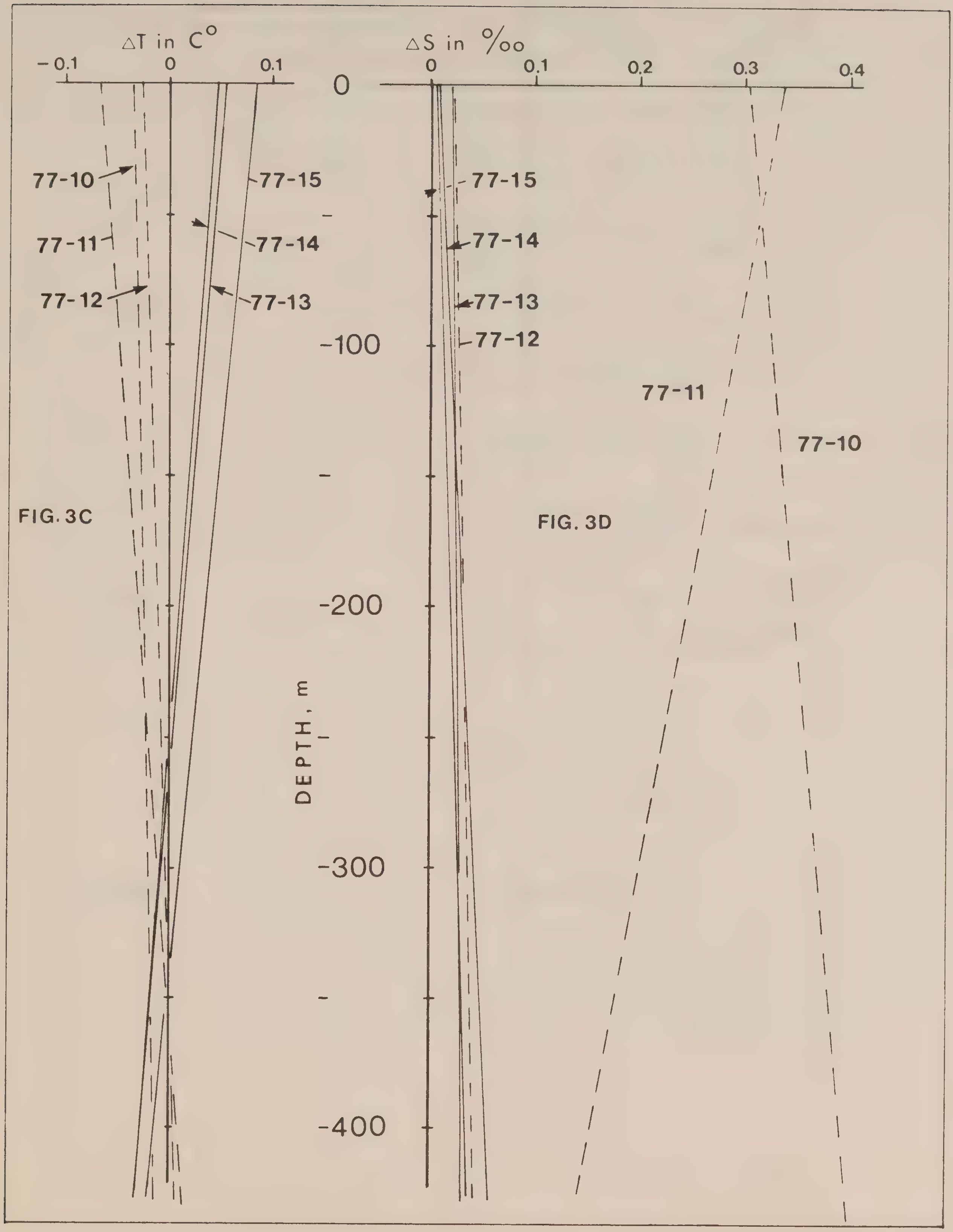

ΔS in ‰
-.10
-.05
.05
.10
0m
100
200
300
400
DEPTH, m
CR. 76-20
Salinity correction

FIG. 3b


ΔT in C°
− 0.1
0
0.1
ΔS in ‰
0
0.1
0.2
0.3
0.4
0
-100
-200
-300
-400
DEPTH, m
77-10
77-11
77-12
77-13
77-14
77-15
FIG. 3C
FIG. 3D

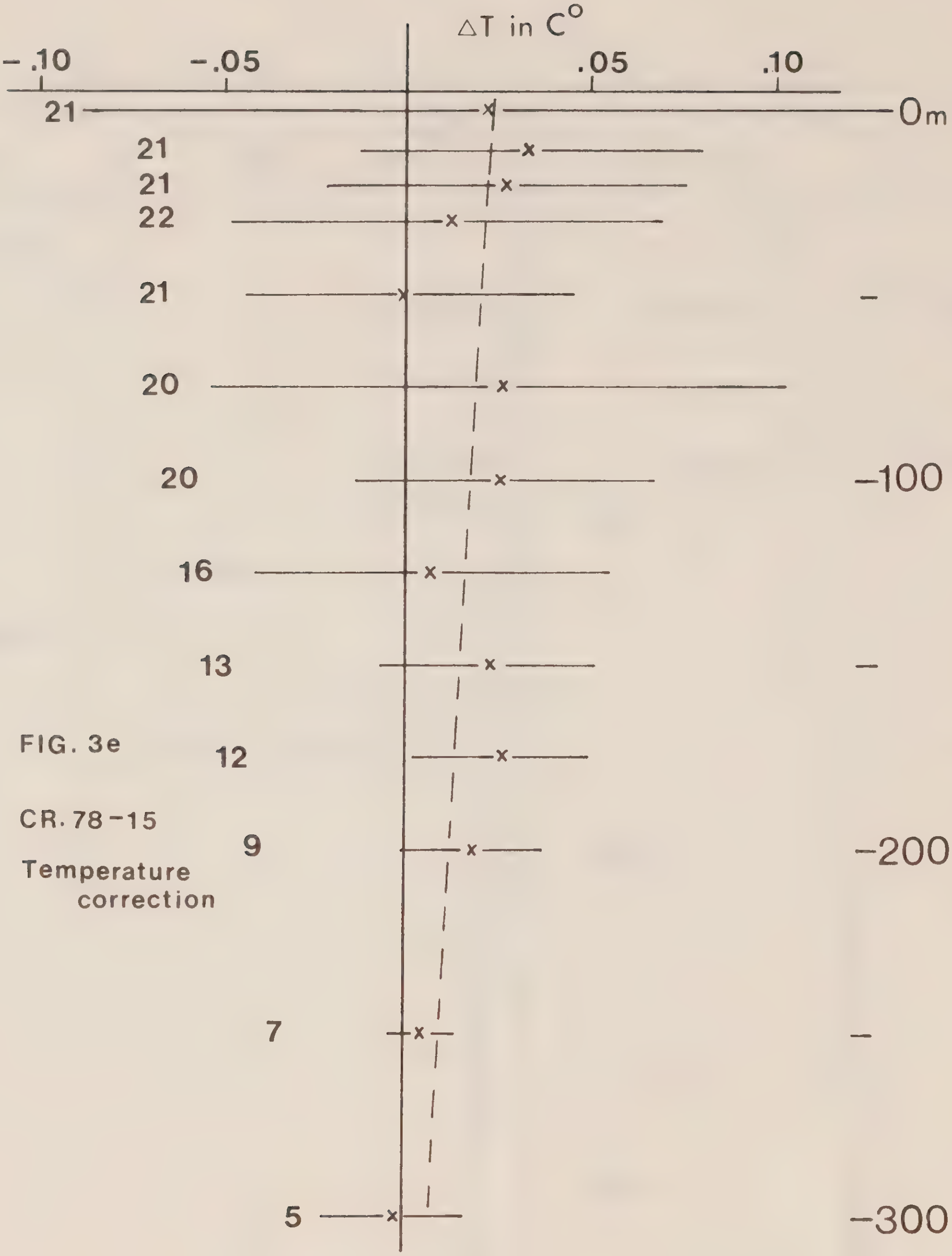



FIG. 3e

CR. 78-15

Temperature correction

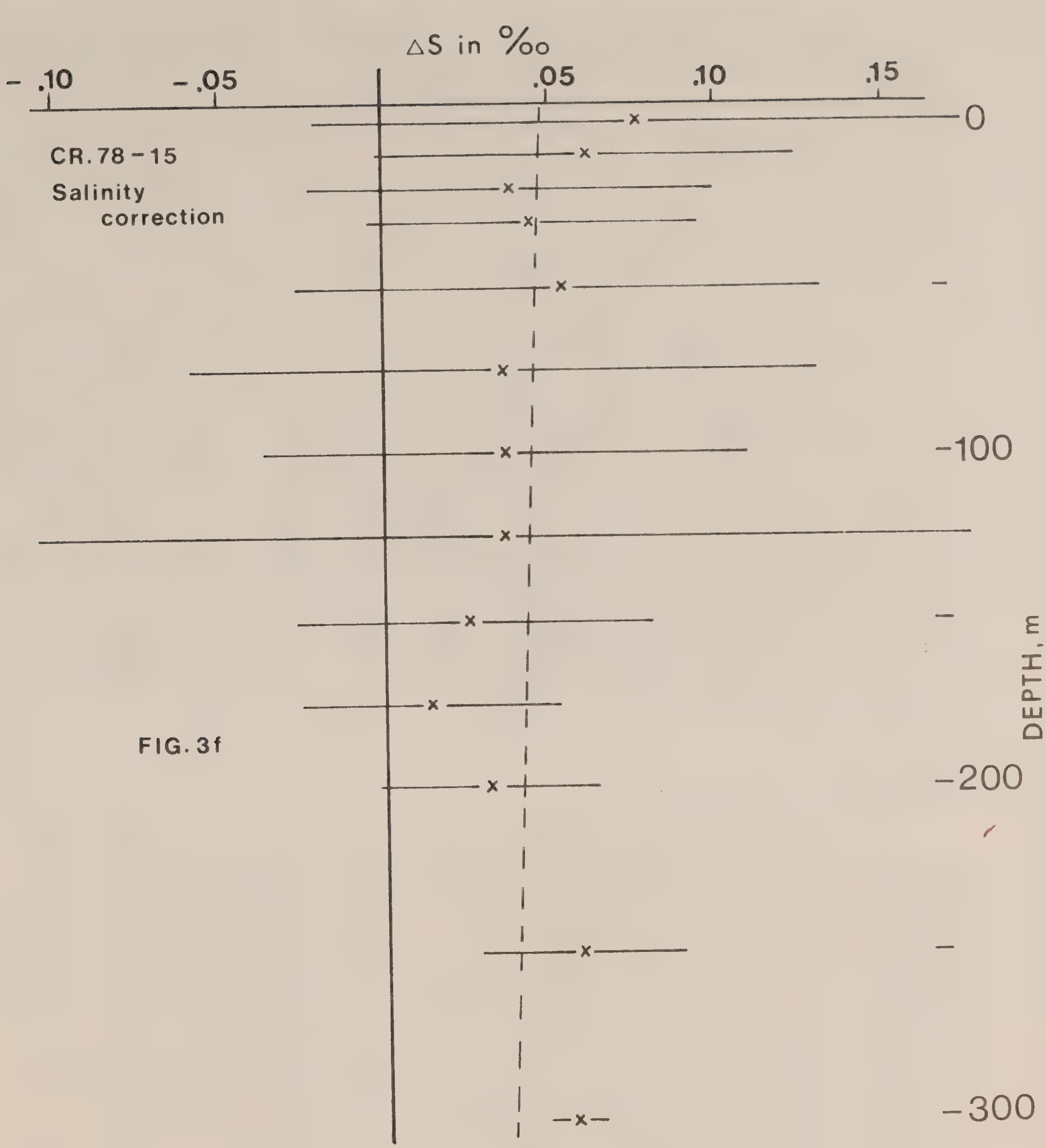

ΔS in ‰
- .10
- .05
.05
.10
.15
0
CR. 78 - 15
Salinity
correction
-100
-200
-300
DEPTH, m

FIG. 3f

of values of 4 to 6 mL/L within the main passage, gave accuracies better than 1%. During the course of the survey, several time-series dissolved oxygen measurements were obtained in Johnstone Strait. However, these were generally confined to four-hourly observations as compared to hourly observations for the accompanying CTDs. Along-channel dissolved oxygen sections are plotted in §3; a single cross-channel section for Station J11 is plotted in §4. (Listings of these data are given in Appendix C.) As with the physical property distributions, contours may be discontinuous at time-series stations. Plots of time-series dissolved oxygen data are presented in §6 and listings appear in Appendix D.

*Nutrient* samples for nitrate, phosphate and silicate were drawn unfiltered into two plastic and two glass vials and frozen in an upright position in the ship's laboratory freezer. (A number of duplicate samples were also drawn to provide an estimate of analytical errors.) Following the cruise, samples were analyzed using a Technicon auto-analyzer under contract to Seakem Oceanography Ltd. Mid-channel sectional plots for the nutrient data are presented in §3 and the data are listed in Appendix E; no time-series nutrient stations were occupied. Because of the absence of any consistent vertical structure in these data, there is some question as to its reliability. However, as Macdonald *et al* (1980) have shown, the present nutrient collecting technique is perfectly adequate provided the proper freezing and defrosting procedures are followed and the samples are analyzed within a period of a few months of collection. A possible source of error for these nutrient data is extrusion of salts during freezing (vial too full or on its side).

*Turbidity observations*

Measurements of water "transparency" as a function of depth were made during the June 1976 survey using a hand-lowered Hydro Products Transmissometer (Model 612S). The instrument uses a white-light source separated one metre from a photo-cell; attenuation readings are given in percentage (%) of light intensity from the source, assuming 100% transmission in air. Observations were taken immediately after each bottle cast at eight fixed depths to a maximum depth, determined by the length of cable, of 90 m. Readings listed in Table 3 have been calibrated based on an observed value of 92% in air; depths are nominal and have not been corrected for wire angle. The fact that some of the readings exceed 100% is attributable to inexperience in using the transmissometer, which required a period to stabilize prior to each cast, and to a lack of calibration data. Therefore, within a given cast comparisons between magnitudes are presumably reliable to within a few percent whereas absolute magnitudes are only accurate to order ±10%.

*Bottom sediments*

Approximately 110 sediment samples were collected in the western basin of Johnstone Strait in July 1977 using a Shipek bottom grab (Figure 4). An additional 14 samples were collected in November 1977 to verify and supplement sediment distributions obtained in the July survey. The clamshell-

TABLE 3. Transmissivity (%) at fixed depths from the northern Strait of Georgia to Broughton Strait, June 1976. Reading in air prior to SG1 (21 June) = 92%. Depths not corrected for wire angle. (Instrument: Hydro Products Transmissometer, 612S.)

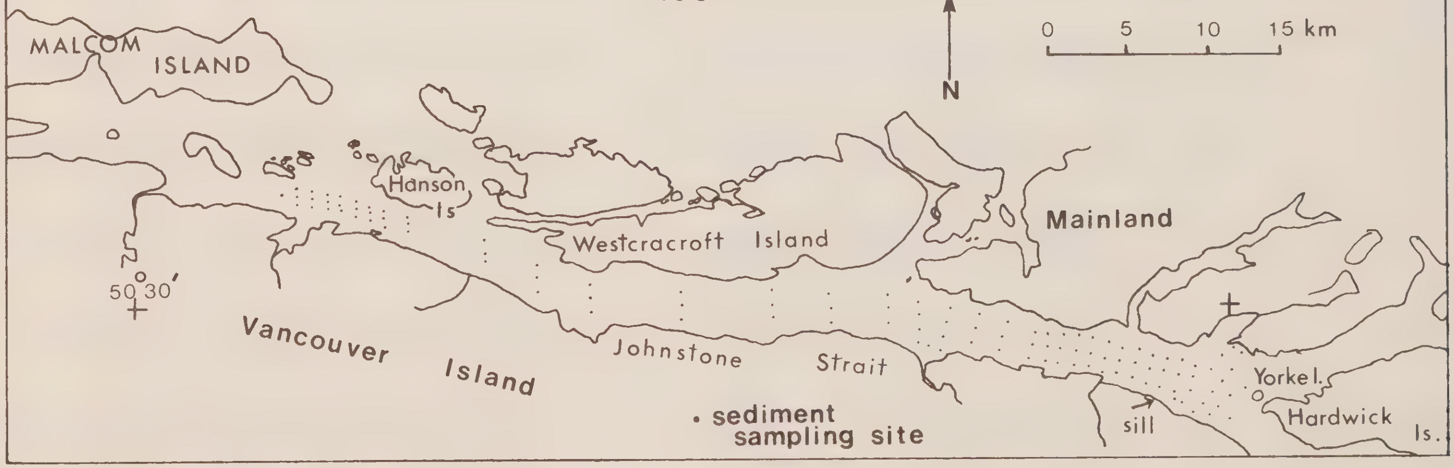
A. OUTBOUND STATIONS

| STATION ID | DATE (June) | TIME (Pst) | NOMINAL DEPTHS (m) Transmissivity, % 0 | 5 | 10 | 20 | 30 | 50 | 75 | 90 | WIRE < ° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SG1 | 21 | 1527 | 28 | 44 | 64 | 86 | 93 | 100 | 102 | 102 | 0 |
| DP2 | " | 1818 | 80 | 78 | 78 | 78 | 80 | 80 | 84 | 82 | 0 |
| J1 | " | 1950 | 73 | 80 | 87 | 78 | 76 | 77 | 78 | 80 | 0 |
| J3 | " | 2214 | 101 | 97 | 97 | 94 | 98 | 98 | 98 | 100 | 0 |
| J6 | 22 | 0110 | 89 | 88 | 86 | 83 | 83 | 84 | 88 | 81 | 0 |
| J7N | " | 0245 | 62 | 67 | 73 | 80 | 81 | 82 | 86 | 86 | 30 |
| J8 | " | 0405 | 78 | 80 | 81 | 82 | 82 | 84 | 86 | 85 | 0 |
| J10 | " | 0615 | 97 | 98 | 99 | 98 | 98 | 99 | 106 | 106 | 0 |
| J11 | " | 0717 | 80 | 82 | 83 | 86 | 87 | 89 | 90 | 88 | 0 |
| J12 | " | 0955 | 81 | 79 | 86 | 90 | 92 | 89 | 87 | 86 | 0 |
| J13 | " | 1155 | 94 | 86 | 89 | 91 | 89 | 84 | 80 | 79 | 0 |
| J14 | " | 1310 | 97 | 98 | 97 | 93 | 91 | 85 | 79 | 77 | 0 |
| J14A | " | 1517 | 80 | 81 | 80 | 82 | 82 | 87 | 89 | 89 | 0 |

B. INBOUND STATIONS

| STATION ID | DATE (June) | TIME (Pst) | 0 | 5 | 10 | 20 | 30 | 50 | 75 | 90 | WIRE < ° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| J13N | 22 | 1615 | 80 | 78 | 80 | 82 | 87 | 87 | 82 | 80 | 0 |
| J13 | " | 1745 | 80 | 82 | 83 | 87 | 89 | 88 | 86 | 84 | 0 |
| J13S | " | 1832 | 80 | 82 | 82 | 84 | 87 | 87 | 85 | 84 | 0 |
| J10 | 23 | 0127 | 81 | 83 | 86 | 86 | 87 | 90 | 90 | 90 | 0 |
| J9 | " | 0340 | 98 | 100 | 102 | 100 | 106 | 104 | 104 | 102 | 0 |
| J8N | " | 0445 | 87 | 90 | 87 | 91 | 90 | 92 | 91 | 88 | 0 |
| J8 | " | 0515 | 91 | 93 | 93 | 92 | 91 | 89 | 87 | 87 | 20 |
| J8S | " | 0538 | 100 | 101 | 98 | 96 | 93 | 94 | 100 | 100 | 0 |
| J6N | " | 1437 | 91 | 97 | 95 | 94 | 92 | 90 | 86 | 82 | 0 |
| J6 | " | 1526 | 91 | 98 | 98 | 97 | 96 | 92 | 90 | 93 | 0 |
| J6S | " | 1555 | 89 | 88 | 89 | 89 | 88 | 92 | 90 | 93 | 0 |
| J5 | " | 1720 | 84 | 87 | 87 | 87 | 86 | 83 | 81 | 81 | 30 |
| J3 | " | 2022 | 47 | 64 | 69 | 78 | 80 | 80 | 80 | 80 | 0 |
| J2 | " | 2125 | 76 | 82 | 82 | 81 | 79 | 79 | 81 | 80 | 0 |
| J1 | " | 2300 | 70 | 72 | 72 | 72 | 78 | 83 | 84 | 82 | 0 |
| DP2 | 24 | 0030 | 64 | 79 | 79 | 80 | 80 | 79 | 81 | 81 | 0 |
| DP1 | " | 0240 | 87 | 87 | 83 | 81 | 77 | 72 | 73 | 72 | 0 |
| SG1 | " | 0435 | 17 | 22 | 52 | 72 | 80 | 89 | 105 | 106 | 0 |

FIGURE 4


MALCOM ISLAND
Hanson Is
Westcracroft Island
Mainland
0 5 10 15 km
N
50°30′
Vancouver Island
Johnstone Strait
sill
Yorke I.
Hardwick Is.
• sediment sampling site

like, spring loaded sampler was attached to the end of the hydro wire and allowed to free fall to the bottom. When it surfaced empty, jammed open by a rock or had only a trace of sand, the sampler was redeployed until results were consistent on at least two attempts. Figure 5 gives a qualitative description of the observed bottom sediments (Luternauer, personal communication). A more quantitative description of the composition and grain size of the sediments will be presented in a separate report.

## 3. Mid-channel sections

Plotted here are along-channel sections of water properties based on values at standard depths for each transect. Sections are presented in chronological order on a per cruise basis with up to two transects per cruise. Quantities plotted are temperature, salinity, density ($\sigma_t$), dissolved oxygen and, where available, nitrate, phosphate and silicate. Sigma-t is defined as:

$$\sigma_t = \sigma_{s,t,o} = (\rho_{s,t,o} - 1) \times 10^3$$

where $\rho_{s,t,o}$ in gm cm$^{-3}$ is the observed density for *in situ* salinity (s) and temperature (t) but at zero pressure (e.g. Pickard, 1975).

Owing to the length of the passageway, the sections have been separated into two groups: the first covers that portion of the passageway from the northern end of the Strait of Georgia to the eastern end of Broughton Strait; the second covers sections from the eastern end of Broughton Strait to Gordon and Goletas Channels. At time-series stations, the first and last casts only have been incorporated in the plots. Disjoint contours occur where the isopleths for each cast were of different depths due to effects of horizontal and vertical motions.

When interpreting these data it should be borne in mind that a given transect required a minimum period of one day; where the transect was interrupted to moor current meters or occupy time-series stations, the period was longer.

Figure 6 provides a key for stations for sections from the northern end of the Strait of Georgia to the eastern end of Broughton Strait.

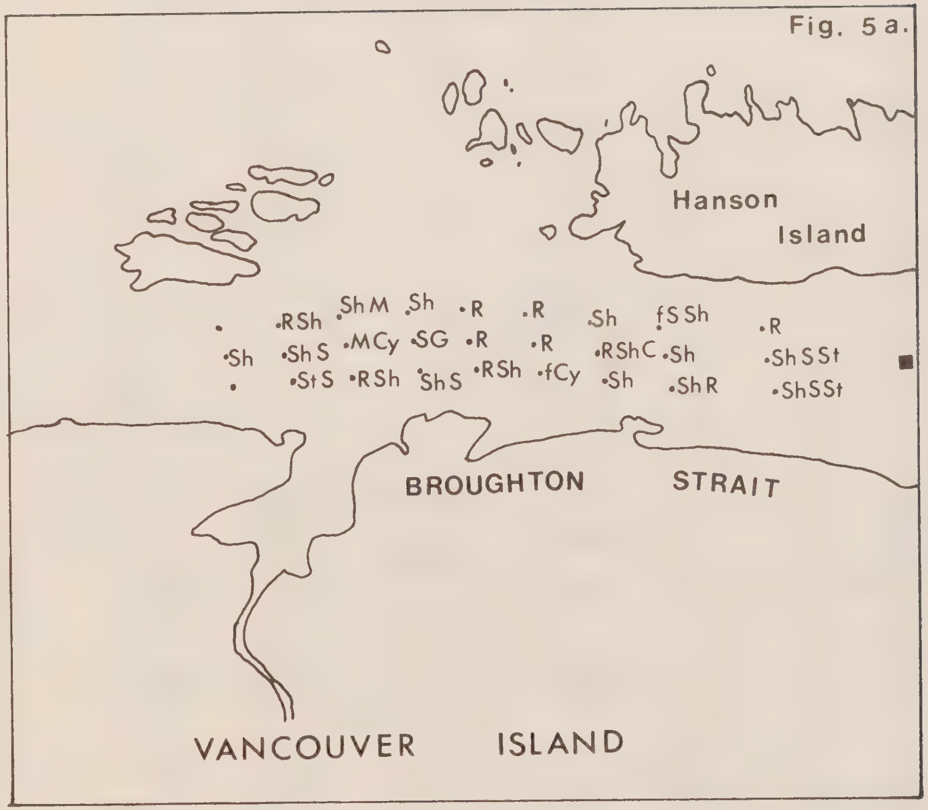
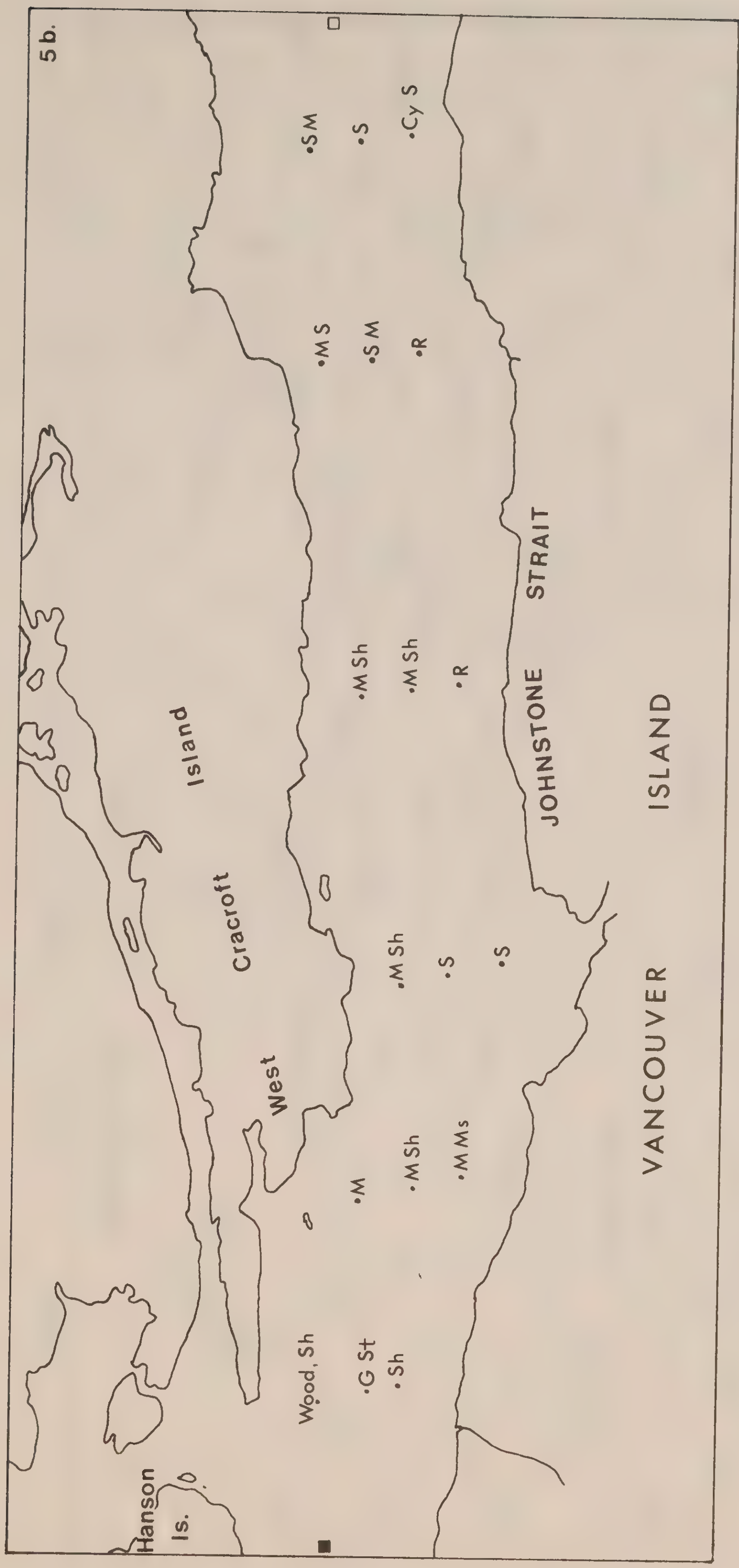
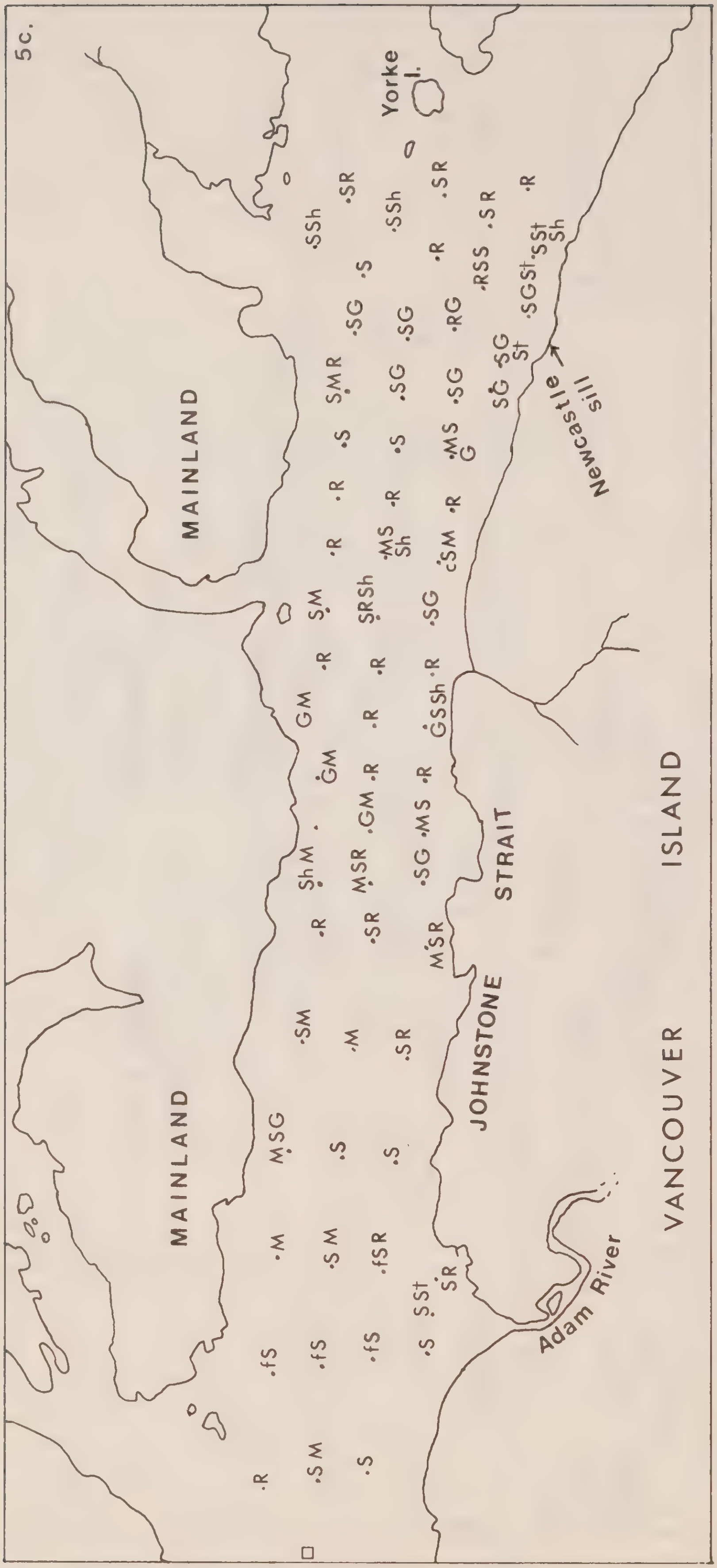

Hanson
Island
RSh
ShM
Sh
R
R
Sh
fSSh
R
Sh
ShS
MCy
SG
R
R
RShC
Sh
ShSSt
StS
RSh
ShS
RSh
fCy
Sh
ShR
ShSSt
BROUGHTON
STRAIT
VANCOUVER
ISLAND

Fig. 5a.


5 b.
Hanson
Is.
West
Cracroft
Island
JOHNSTONE
STRAIT
VANCOUVER
ISLAND
Wood, Sh
G St
Sh
M
M Sh
M Ms
M Sh
S
S
M Sh
M Sh
R
M S
S M
R
S M
S
Cy S


5c.
MAINLAND
MAINLAND
Yorke I.
JOHNSTONE STRAIT
VANCOUVER ISLAND
Newcastle sill
Adam River

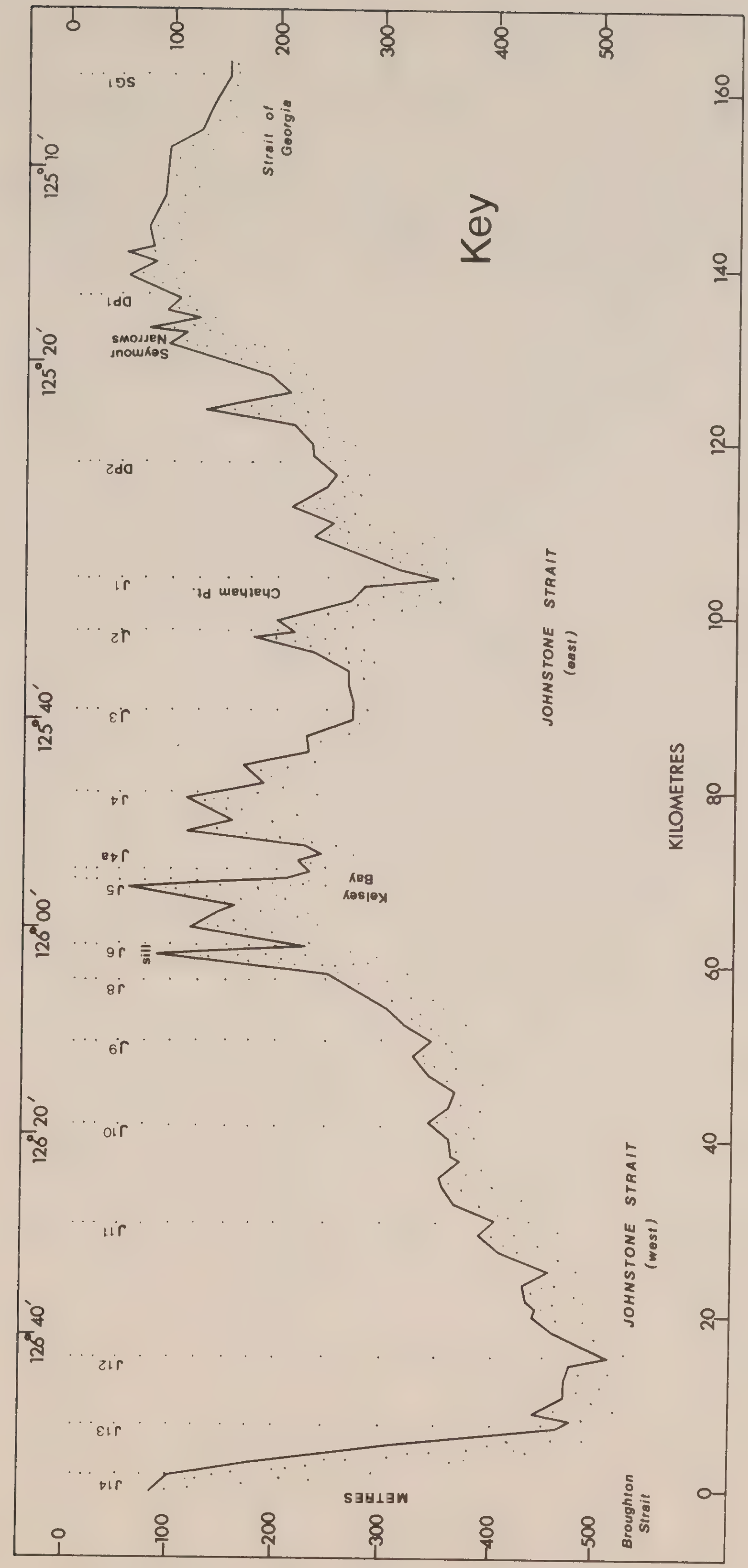
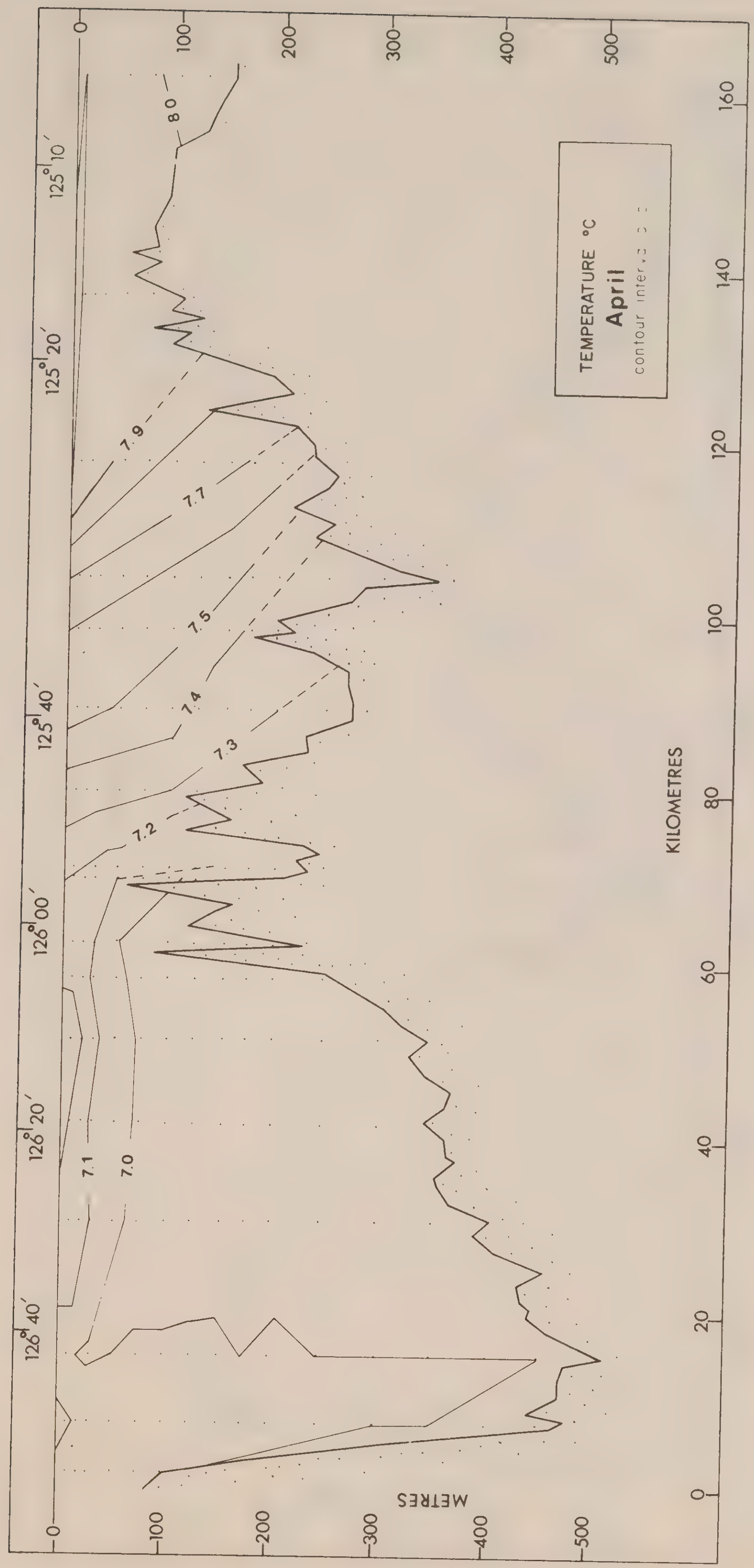

Key
Strait of Georgia
Seymour Narrows
Chatham Pt.
Kelsey Bay
sill
JOHNSTONE STRAIT (east)
JOHNSTONE STRAIT (west)
Broughton Strait
KILOMETRES
METRES
SG1
DP1
DP2
J1
J2
J3
J4
J4a
J5
J6
J8
J9
J10
J11
J12
J13
J14
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
0
100
200
300
400
500
20
40
60
80
100
120
140
160

Figure 6

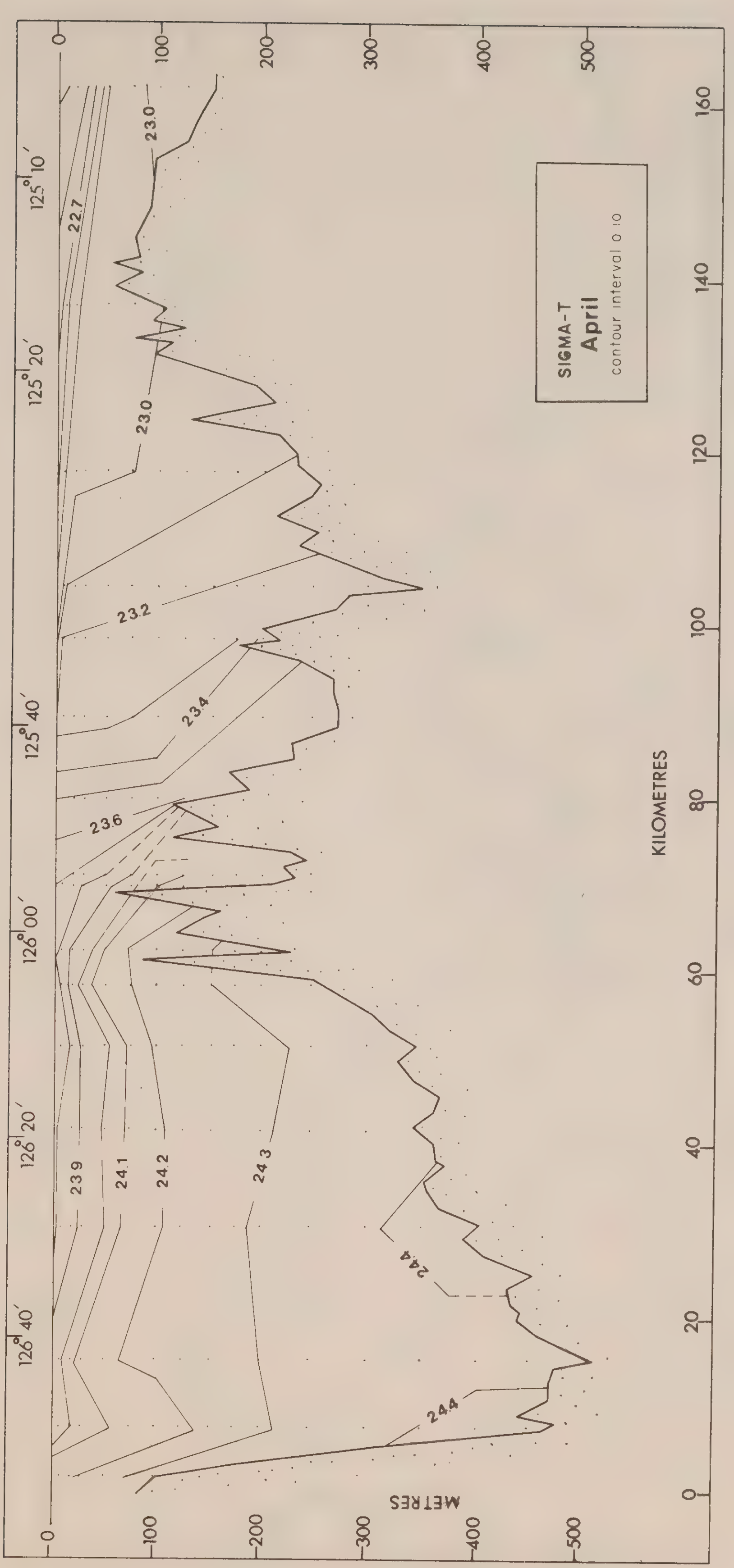
3.1 Cruise 76-20 (April 1976)

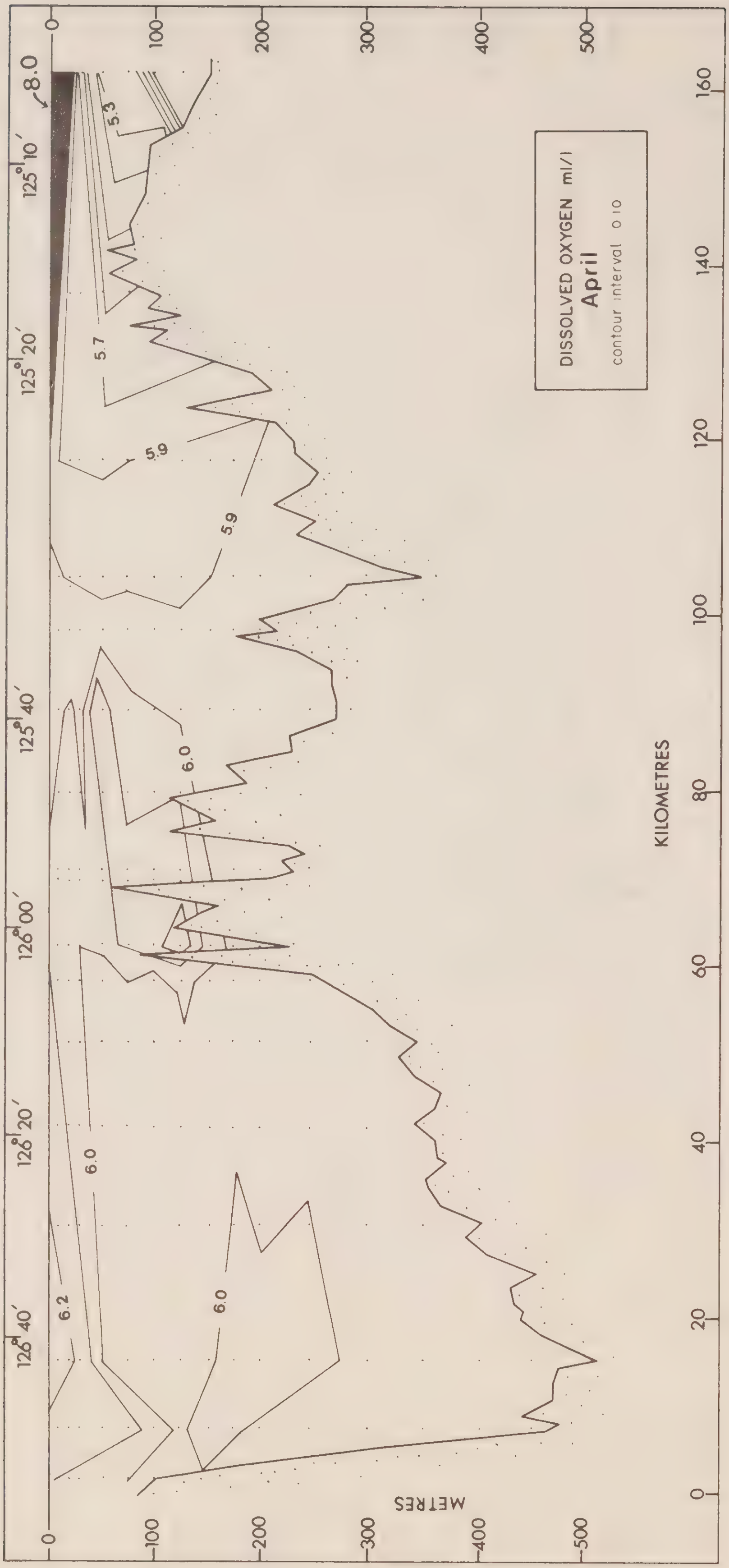
Mid-channel sections of temperature, salinity sigma-t and dissolved oxygen.

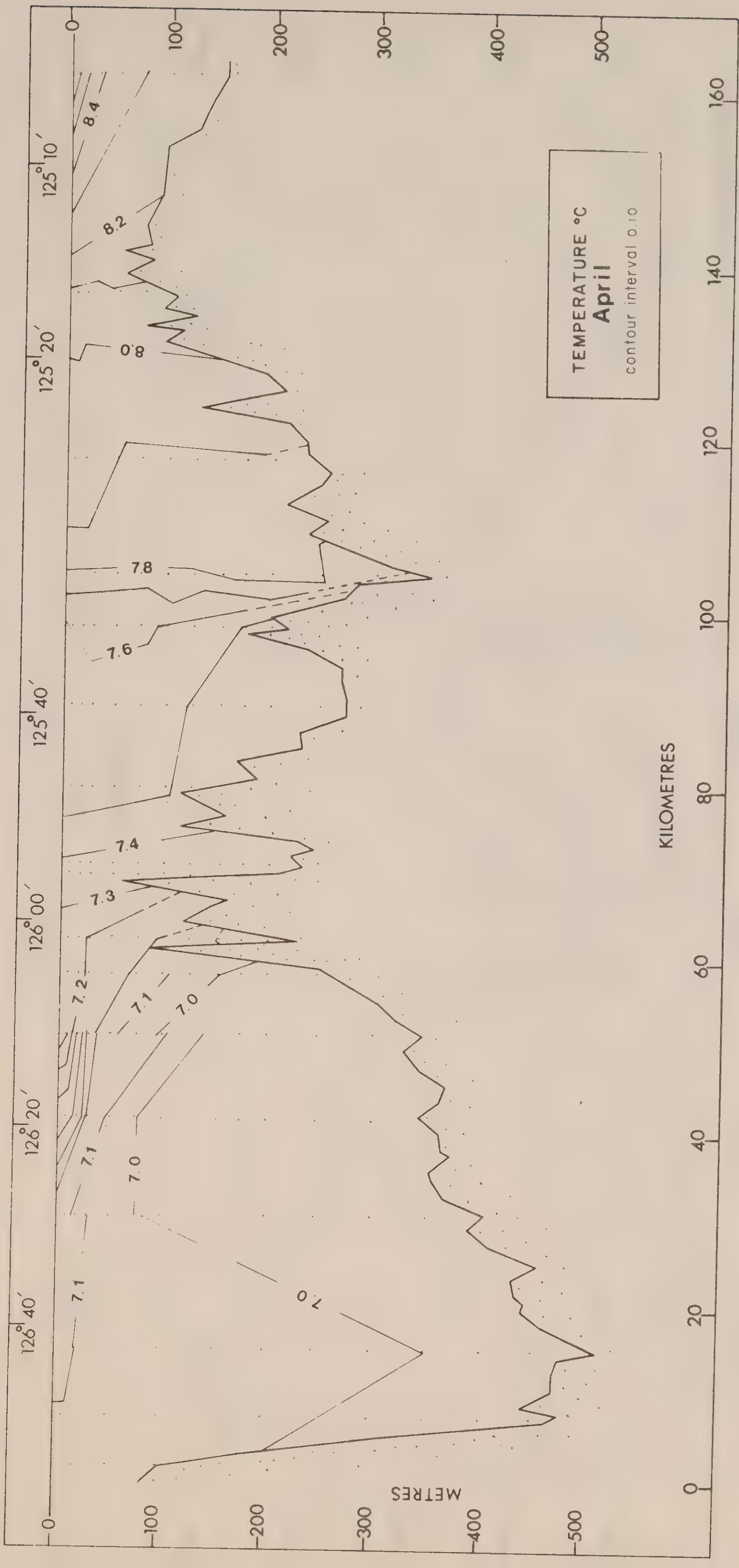
Sections are presented in the following order: outbound transect of Johnstone Strait - Discovery Passage; and inbound transect of Johnstone Strait - Discovery Passage. Nutrient data not collected.

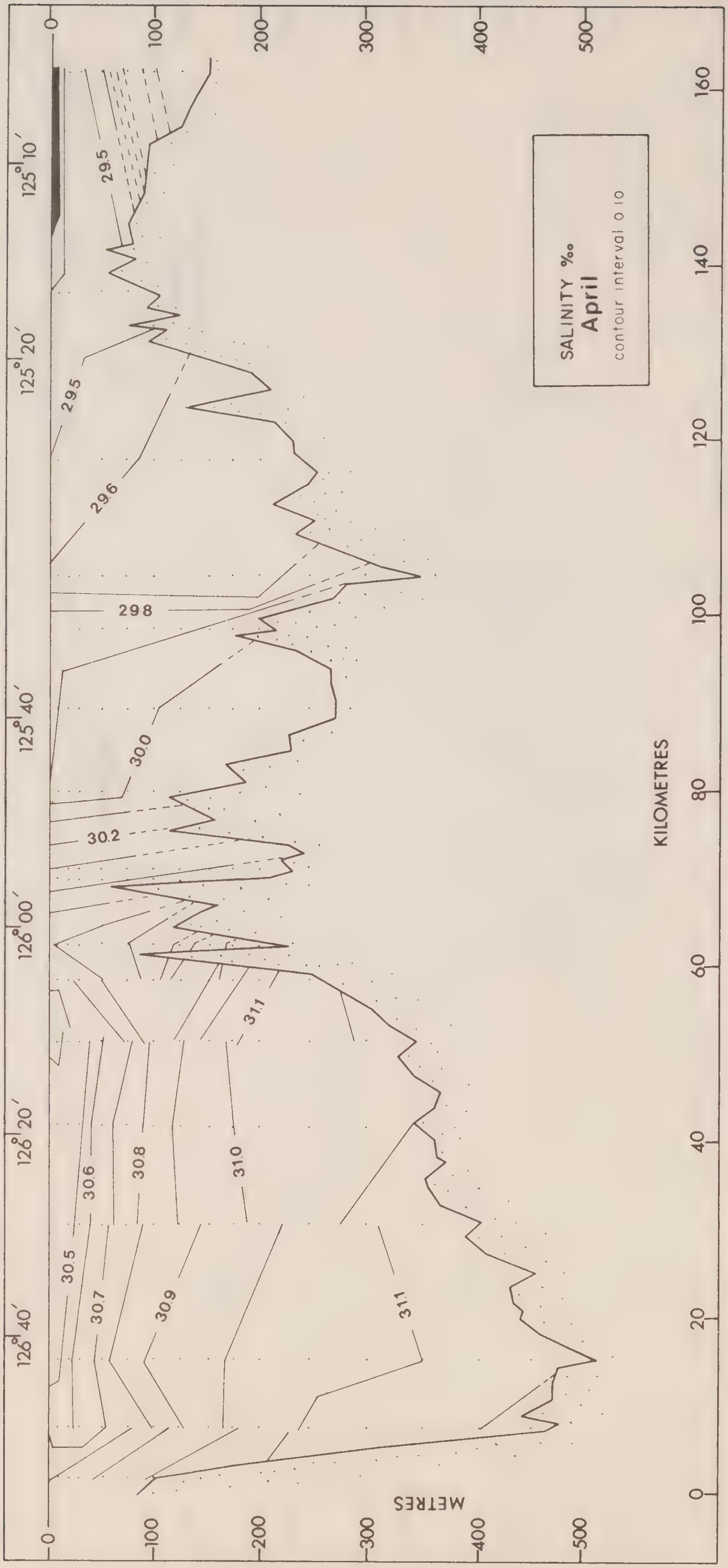

TEMPERATURE °C
April
KILOMETRES
METRES
0
20
40
60
80
100
120
140
160
0
100
200
300
400
500
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
7.0
7.1
7.2
7.3
7.4
7.5
7.7
7.9
8.0


SALINITY ‰
April
contour interval 0.10
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
29.5
29.7
29.9
30.1
30.4
30.5
30.7
30.9
31.1
31.1
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160

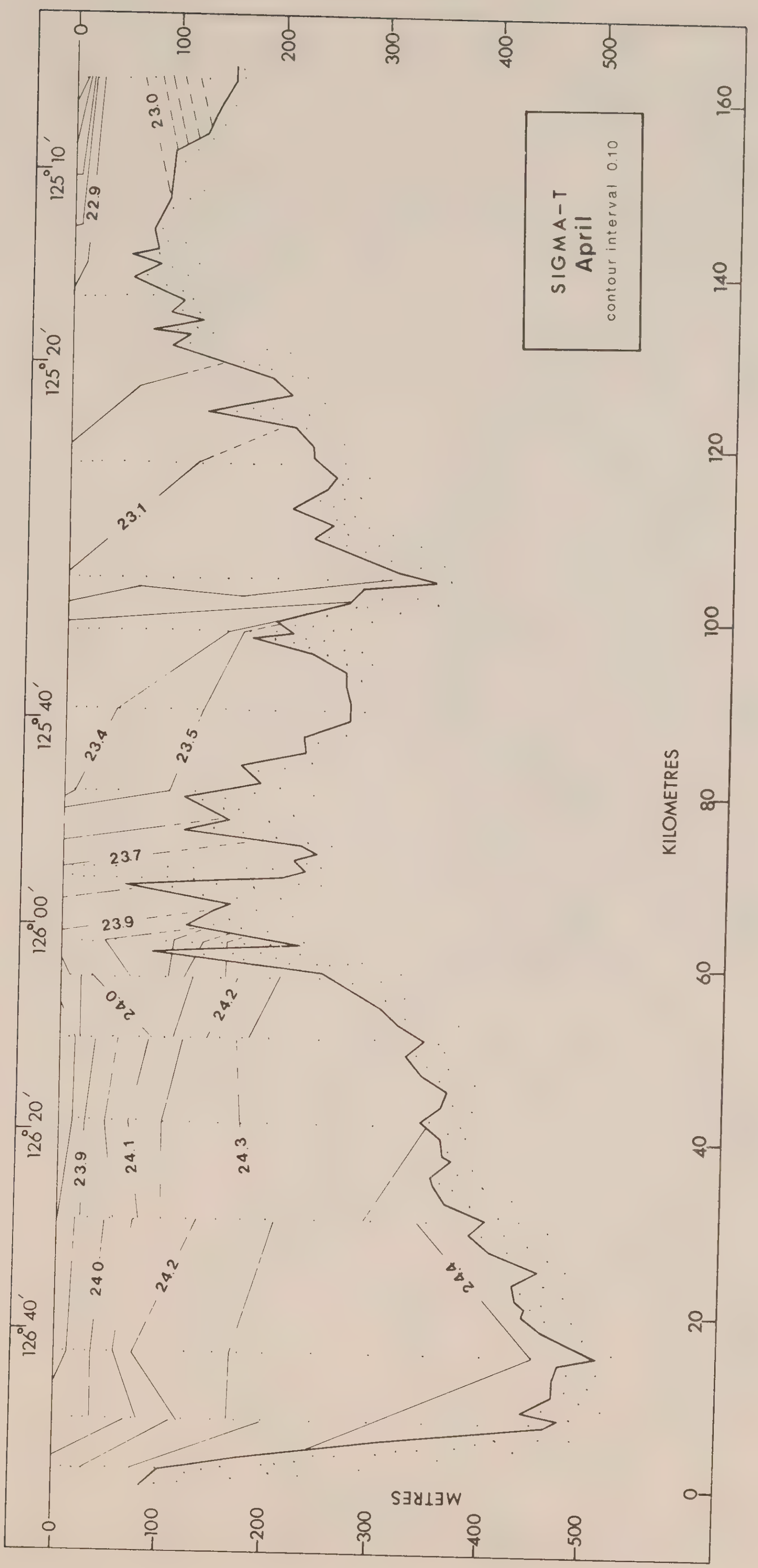

SIGMA-T
April
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
0
20
40
60
80
100
120
140
160
0
100
200
300
400
500
22.7
23.0
23.2
23.4
23.6
23.9
24.1
24.2
24.3
24.4

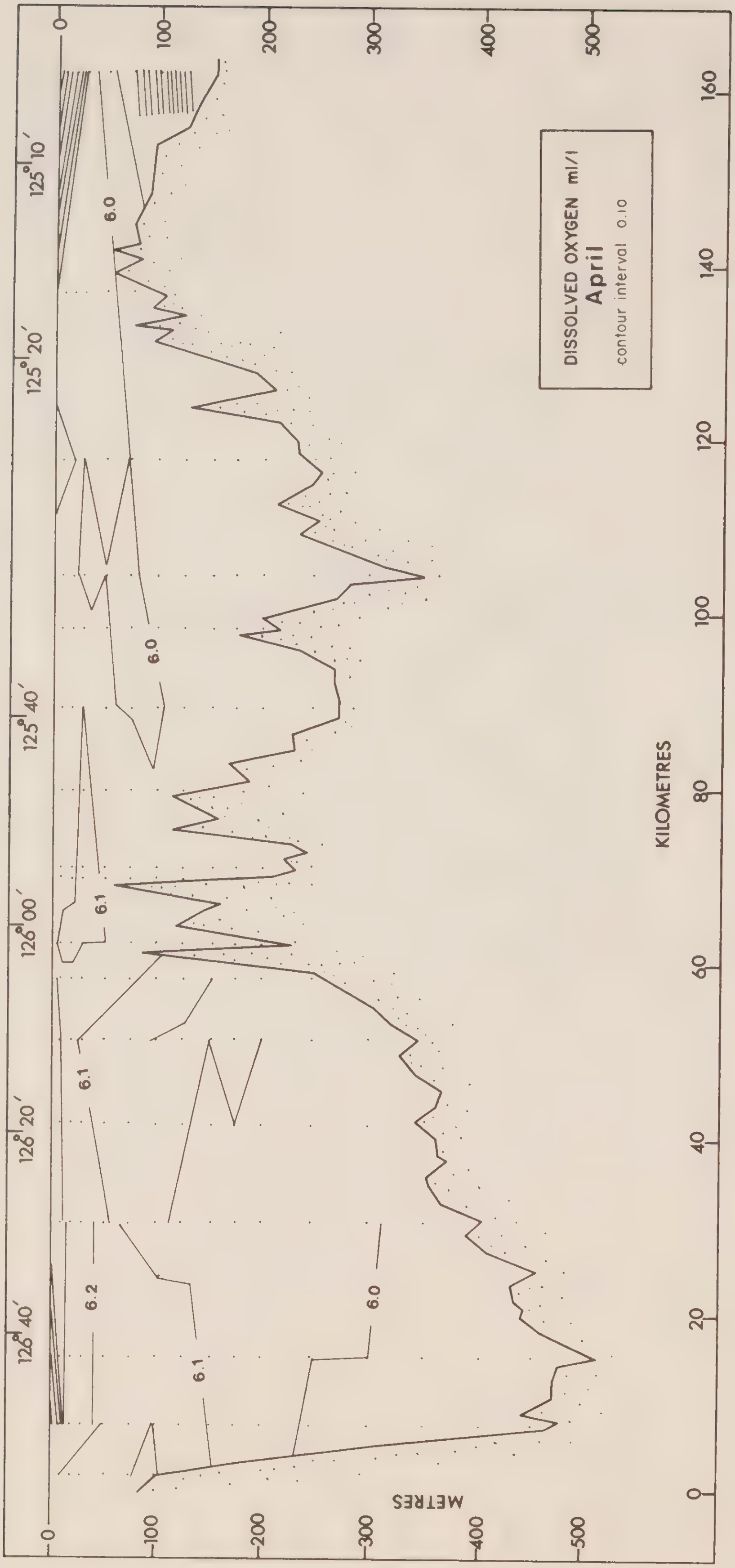

DISSOLVED OXYGEN ml/l
April
contour interval 0.10
KILOMETRES
METRES
0
20
40
60
80
100
120
140
160
0
100
200
300
400
500
126°40'
126°20'
126°00'
125°40'
125°20'
125°10'
8.0
5.3
5.7
5.9
5.9
6.0
6.0
6.0
6.2


TEMPERATURE °C
April
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′



SALINITY ‰
April
contour interval 0.10
KILOMETRES
METRES
0
20
40
60
80
100
120
140
160
100
200
300
400
500
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
29.5
29.6
29.8
30.0
30.2
30.5
30.6
30.7
30.8
30.9
31.0
31.1

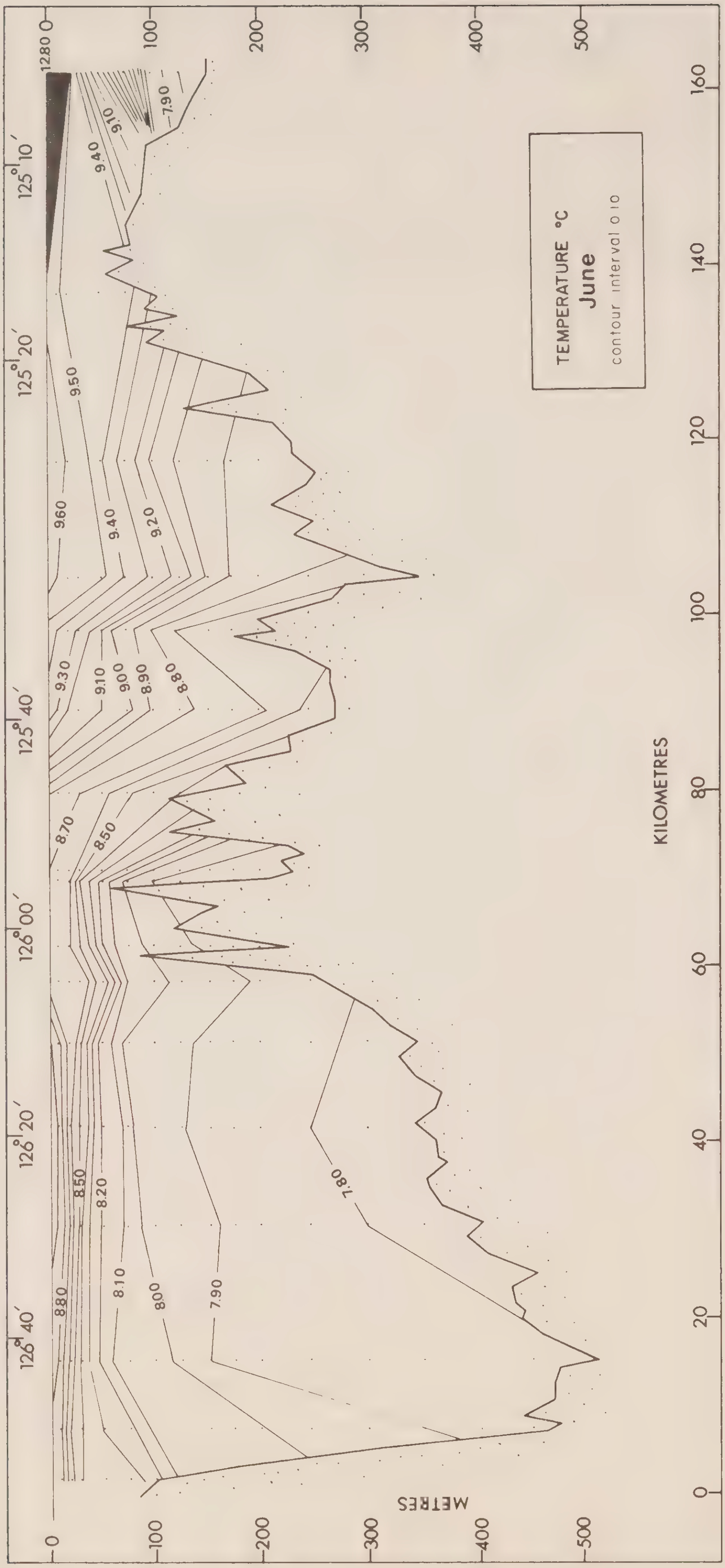

SIGMA-T
April
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
23.0
22.9
23.1
23.4
23.5
23.7
23.9
24.0
24.2
24.1
24.3
24.4

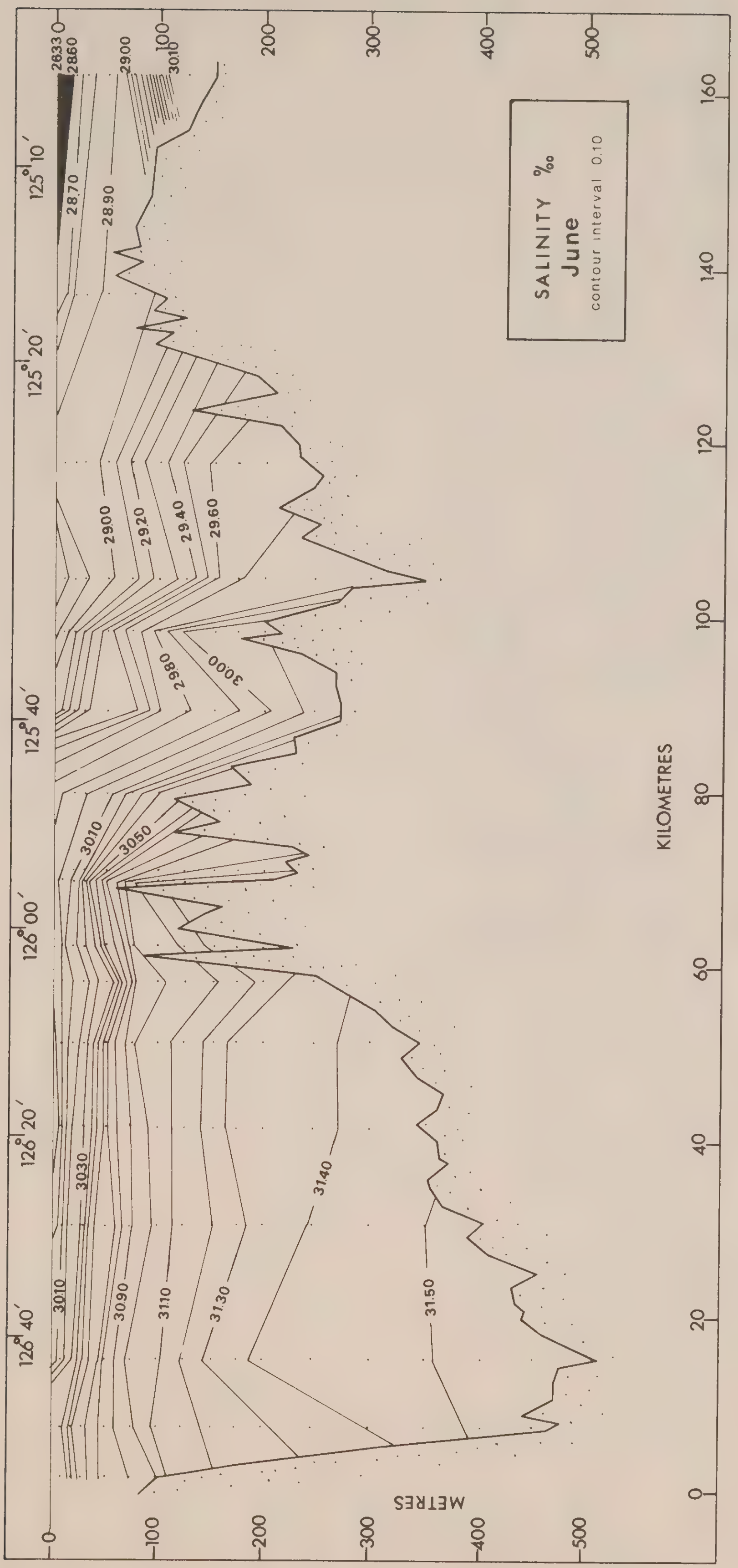

DISSOLVED OXYGEN ml/l
April
contour interval 0.10
KILOMETRES
METRES
0
20
40
60
80
100
120
140
160
100
200
300
400
500
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
6.0
6.1
6.2

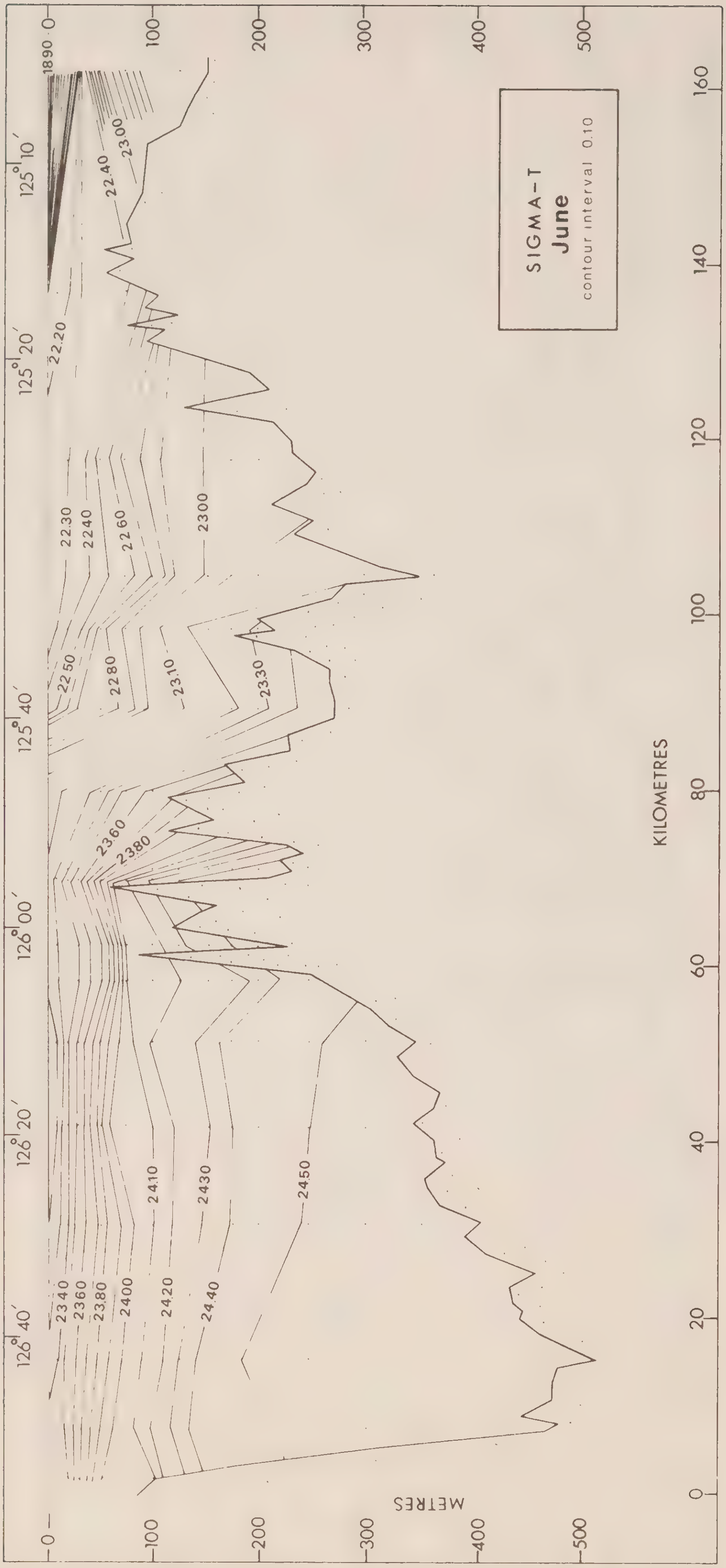
3.2 Cruise 76-22 (June 1976)

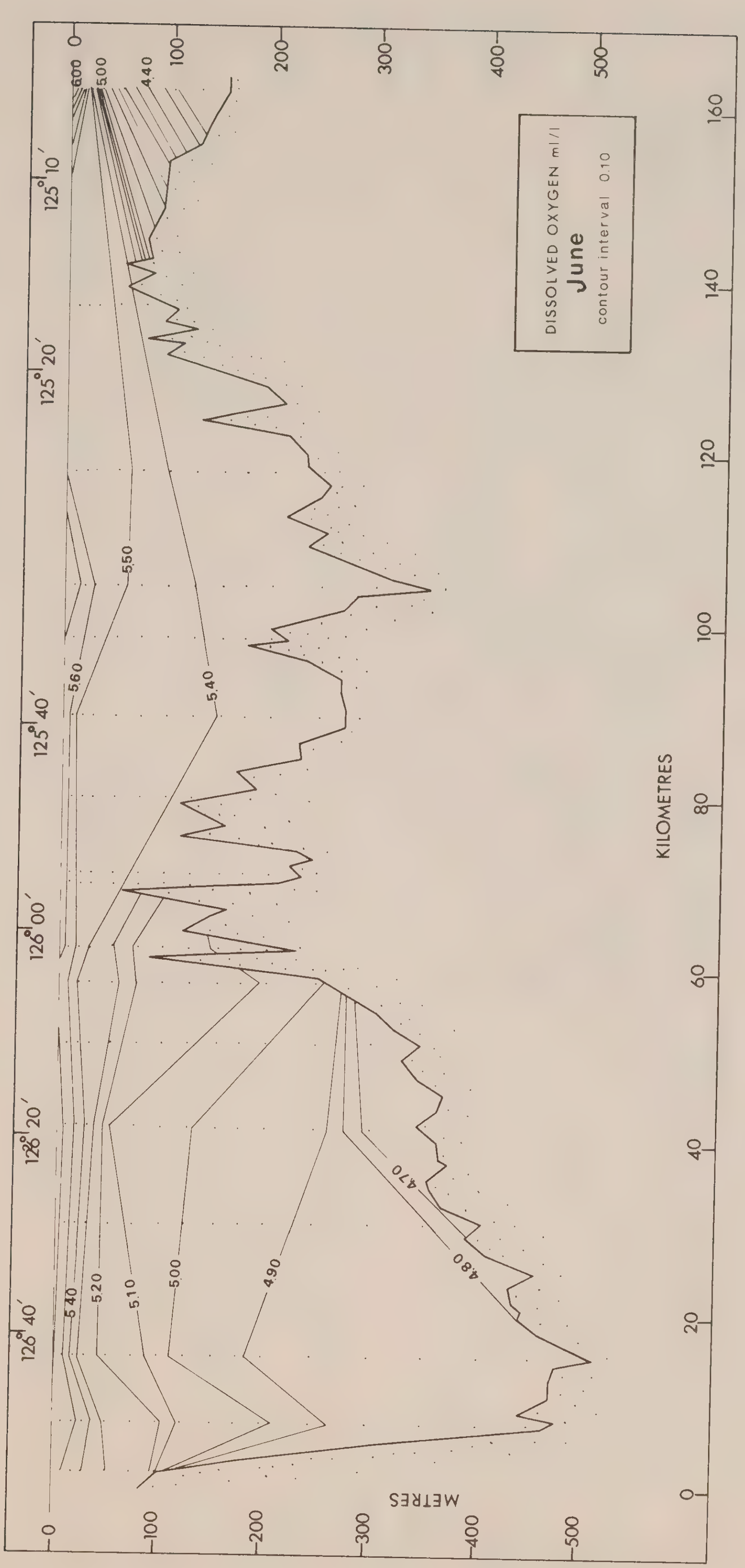
Mid-channel sections of temperature, salinity, sigma-t and dissolved oxygen.

Sections are presented in the following order: outbound transect of Johnstone Strait - Discovery Passage; and inbound transect of Johnstone Strait - Discovery Passage. No nutrient data were collected.

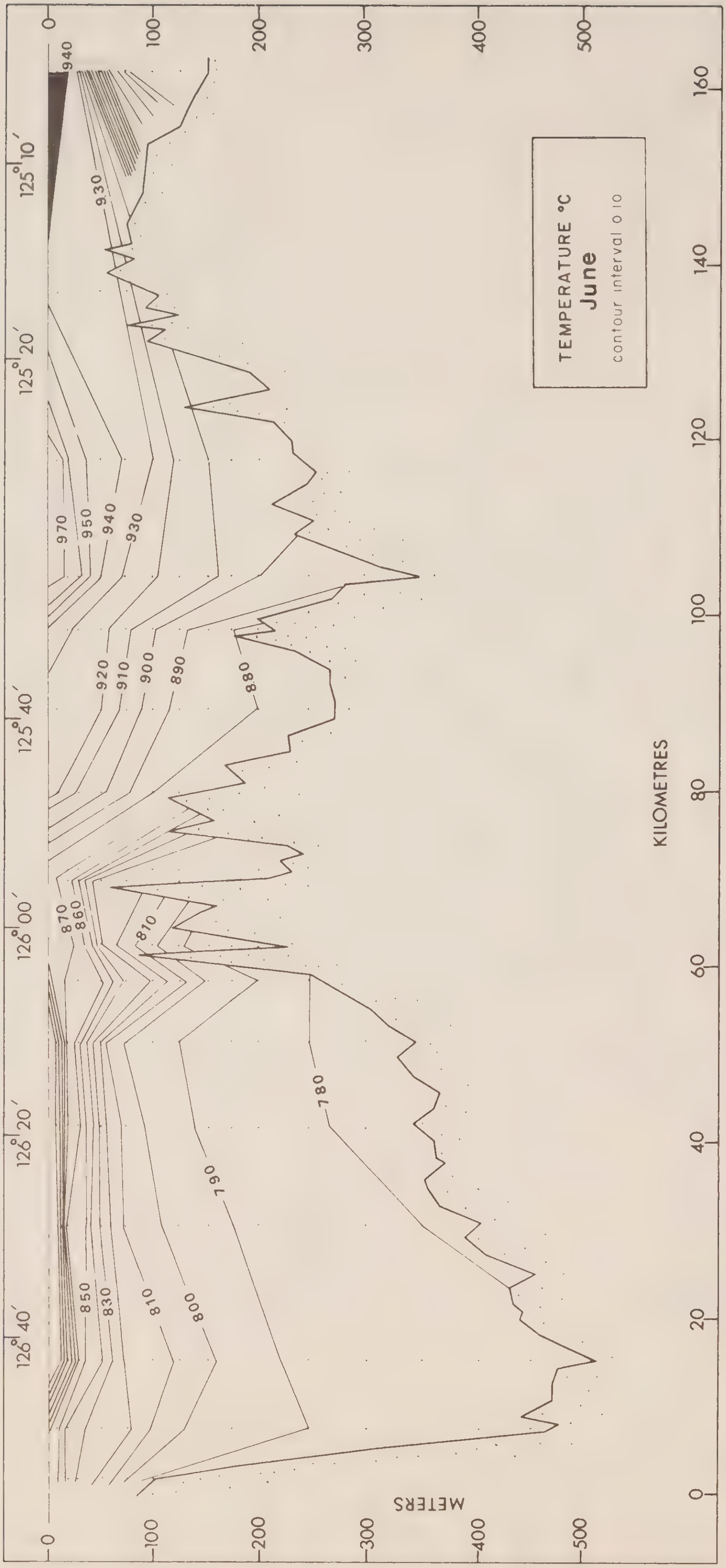

TEMPERATURE °C
June
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
0
20
40
60
80
100
120
140
160
100
200
300
400
500
8.80
8.50
8.20
8.10
8.00
7.90
7.80
8.70
8.50
9.30
9.10
9.00
8.90
8.80
9.60
9.40
9.20
9.50
9.40
9.10
7.90
12.80

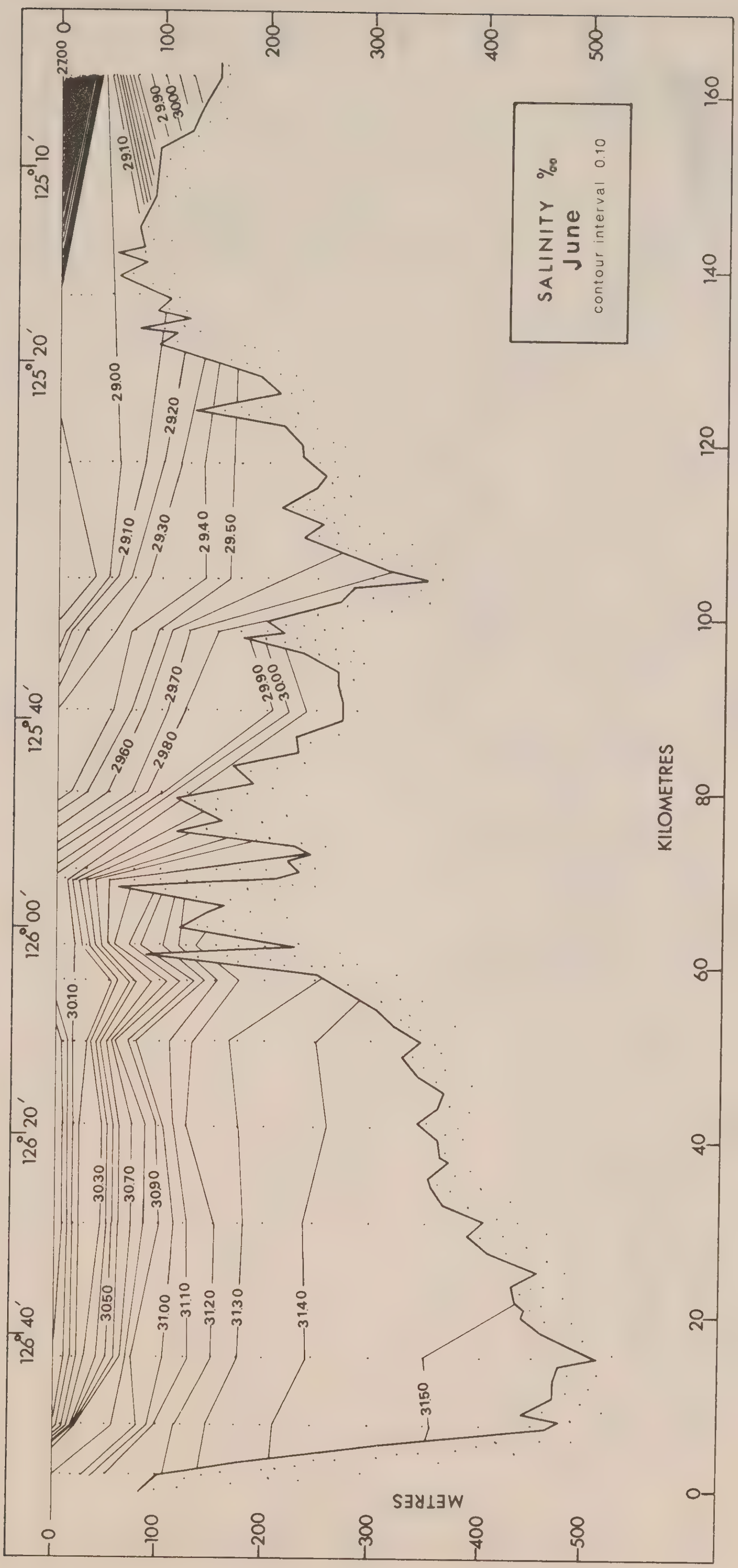

SALINITY ‰
June
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
2833
2860
28.70
28.90
2900
30.10
29.20
29.40
29.60
2980
30.00
3010
3050
3030
3090
31.10
31.30
31.40
31.50

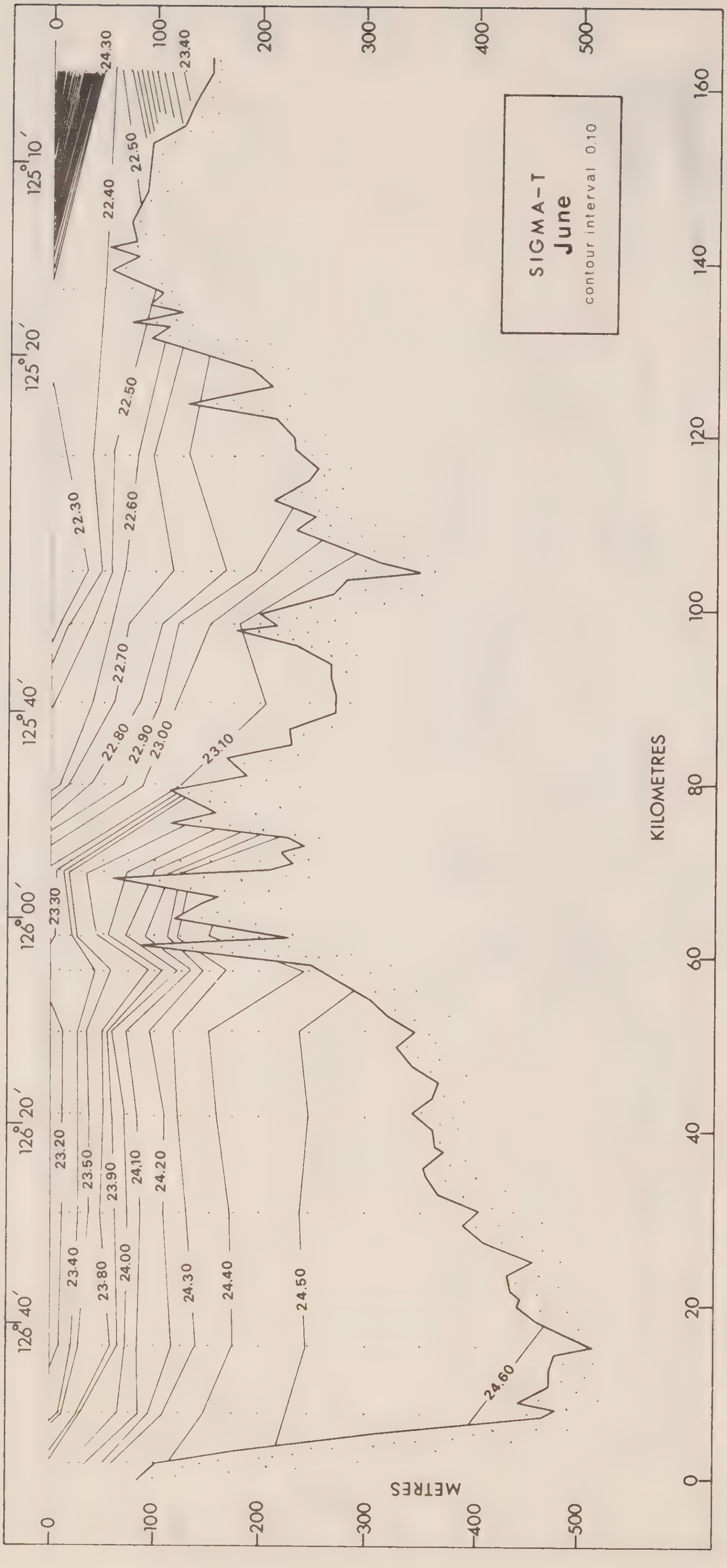

SIGMA-T
June
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′

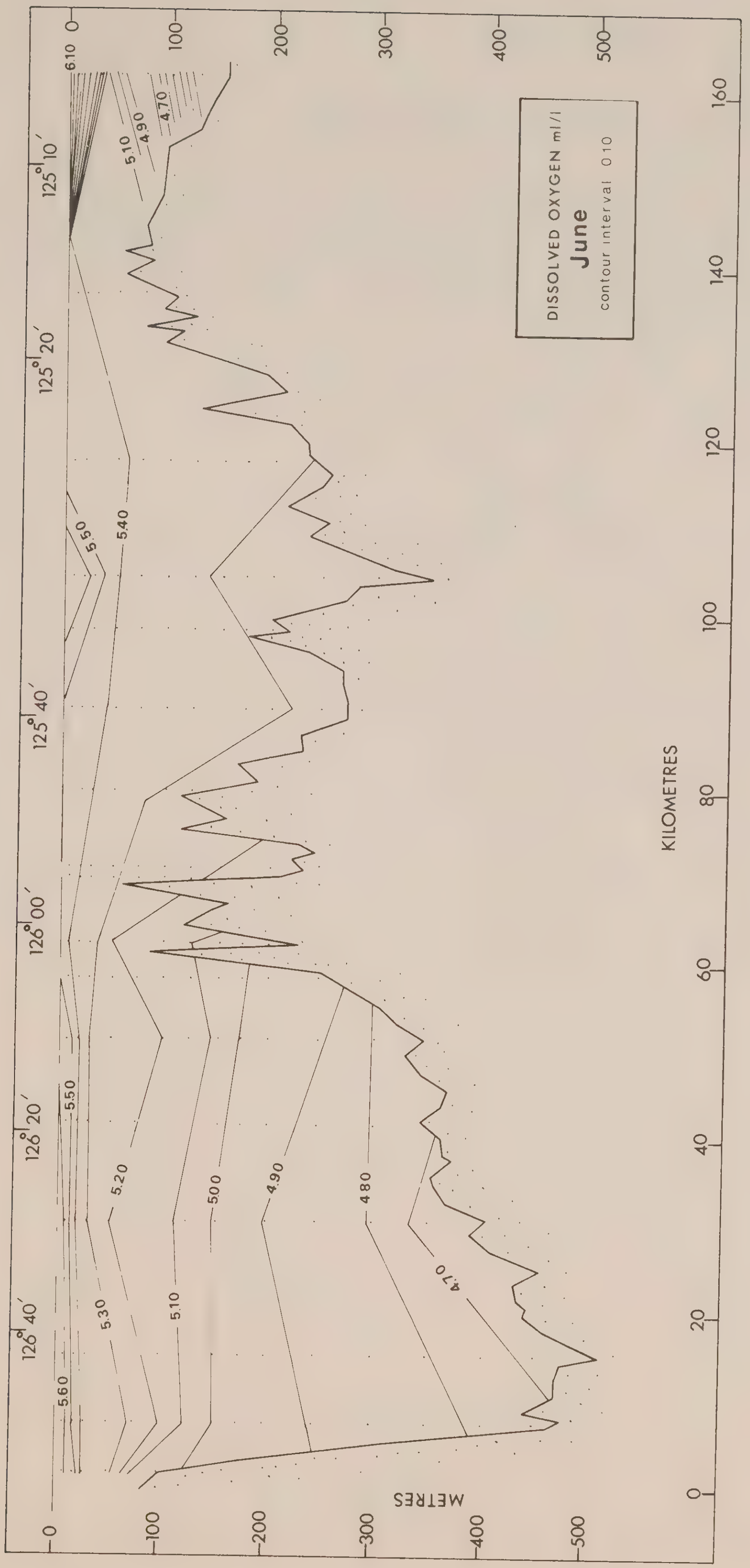


DISSOLVED OXYGEN ml/l
June
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
0
20
40
60
80
100
120
140
160
100
200
300
400
500
6.00
5.00
4.40
5.50
5.60
5.40
5.20
5.10
4.90
4.80
4.70


TEMPERATURE °C
June
contour interval 0.10
KILOMETRES
METERS
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160
940
930
970
950
940
930
920
910
900
890
880
870
860
870
780
790
850
830
810
800


SALINITY ‰
June
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
3150
3140
3130
3120
3110
3100
3090
3070
3050
3030
3010
29.00
29.10
29.20
29.30
29.40
29.50
29.60
29.70
29.80
29.90
30.00
27.00

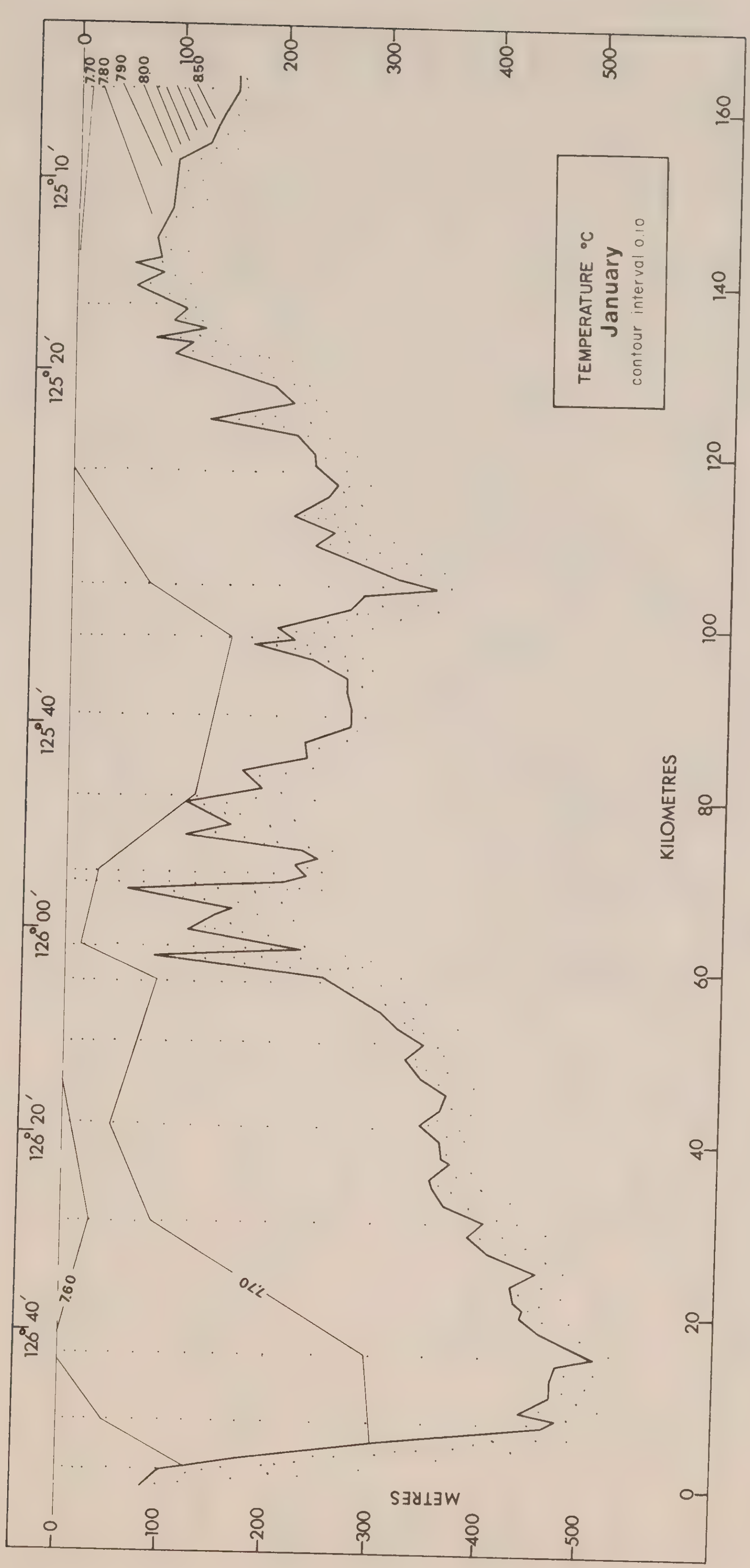

SIGMA-T
June
contour interval 0.10
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
0
100
200
300
400
500
20
40
60
80
100
120
140
160
22.30
22.40
22.50
22.60
22.70
22.80
22.90
23.00
23.10
23.20
23.30
23.40
23.50
23.80
23.90
24.00
24.10
24.20
24.30
24.40
24.50
24.60

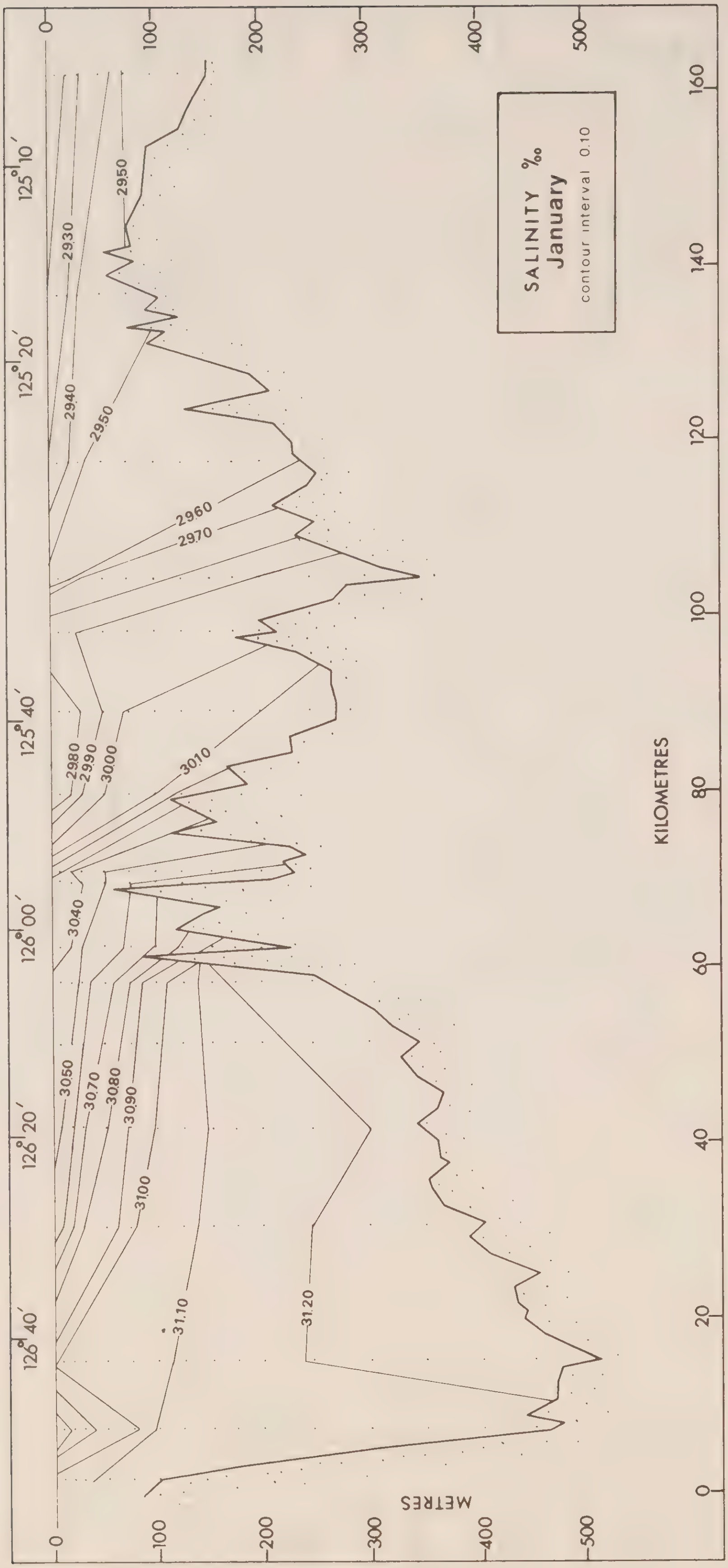

DISSOLVED OXYGEN ml/l
June
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
0
20
40
60
80
100
120
140
160
0
100
200
300
400
500
6.10
5.60
5.50
5.40
5.30
5.20
5.10
5.00
4.90
4.80
4.70

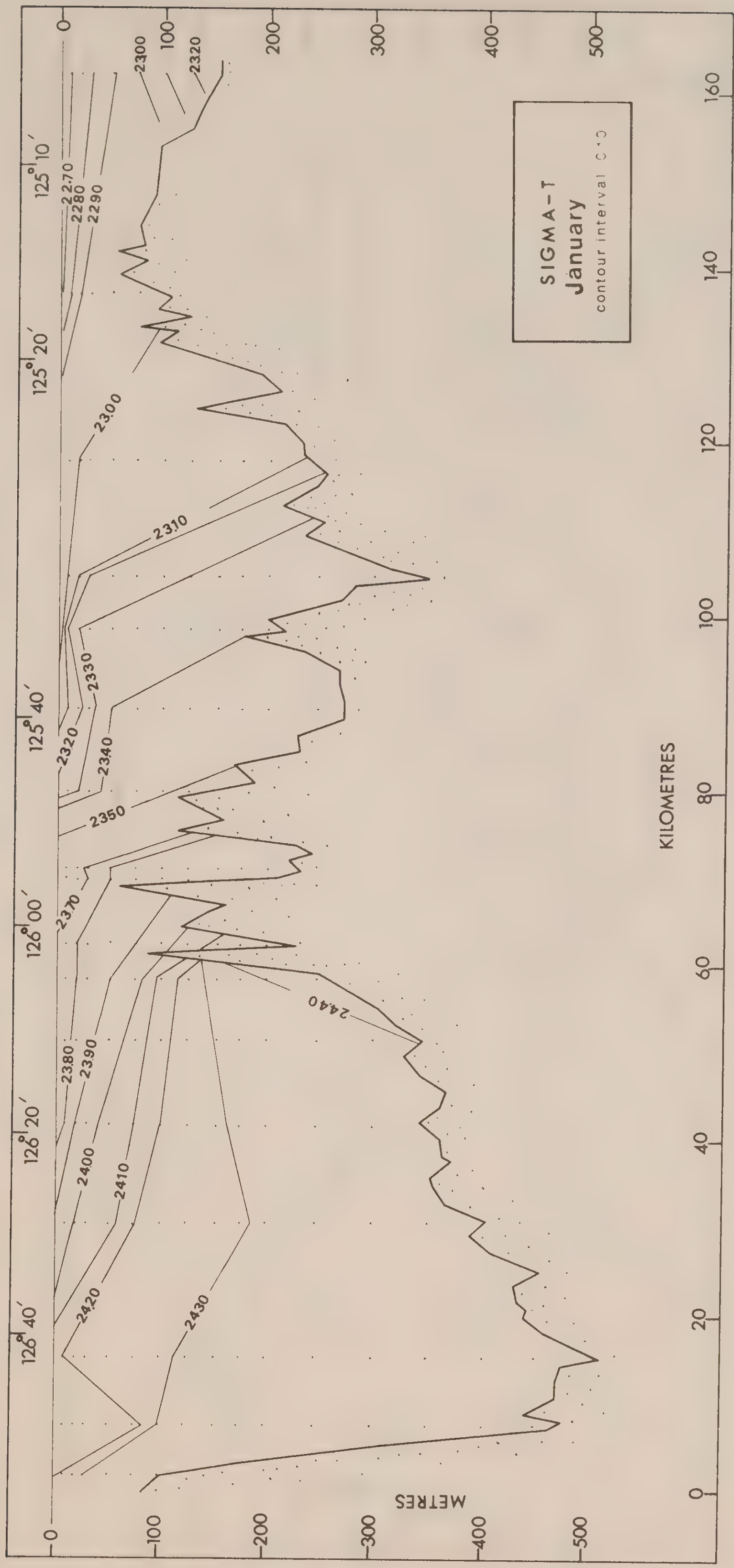
## 3.3 Cruise 77-10 (January 1977)

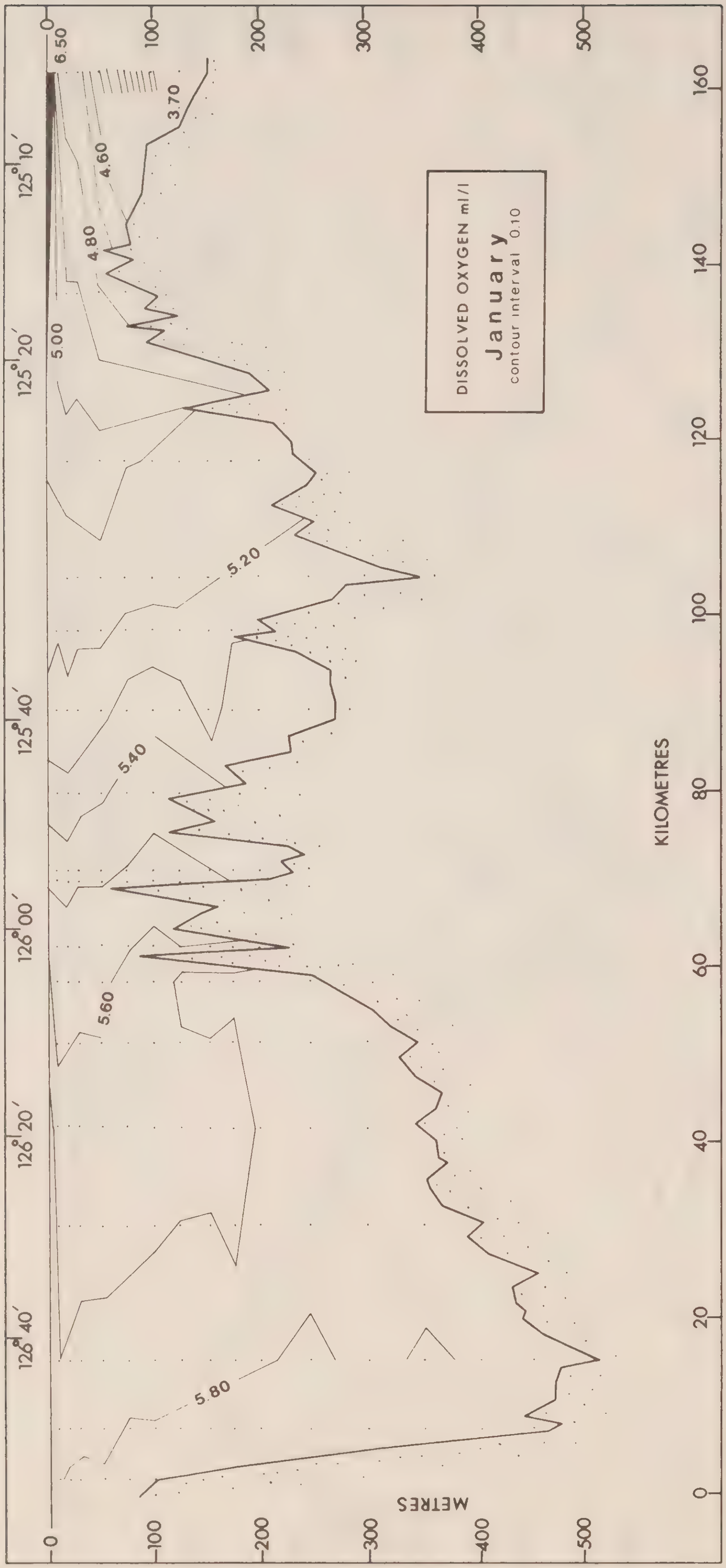
Mid-channel sections of temperature, salinity, sigma-t, dissolved oxygen, nitrate, phosphate and silicate.

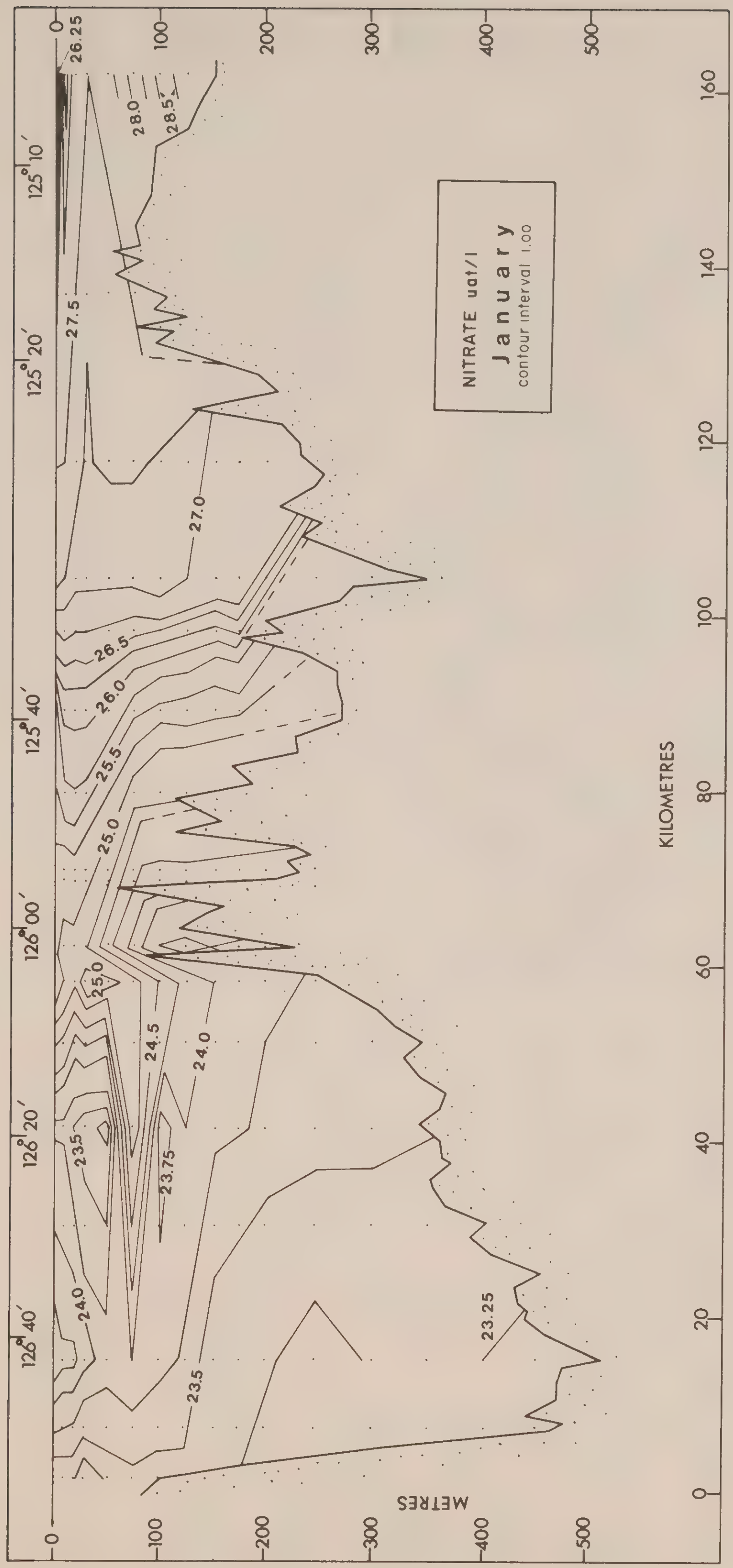
Sections are presented in the following order: outbound transect of Johnstone Strait - Discovery Passage; inbound transect of Johnstone Strait - Discovery Passage; Goletas Channel - Broughton Strait transect of Queen Charlotte Strait; and Gordon Channel - Broughton Strait transect of Queen Charlotte Strait.

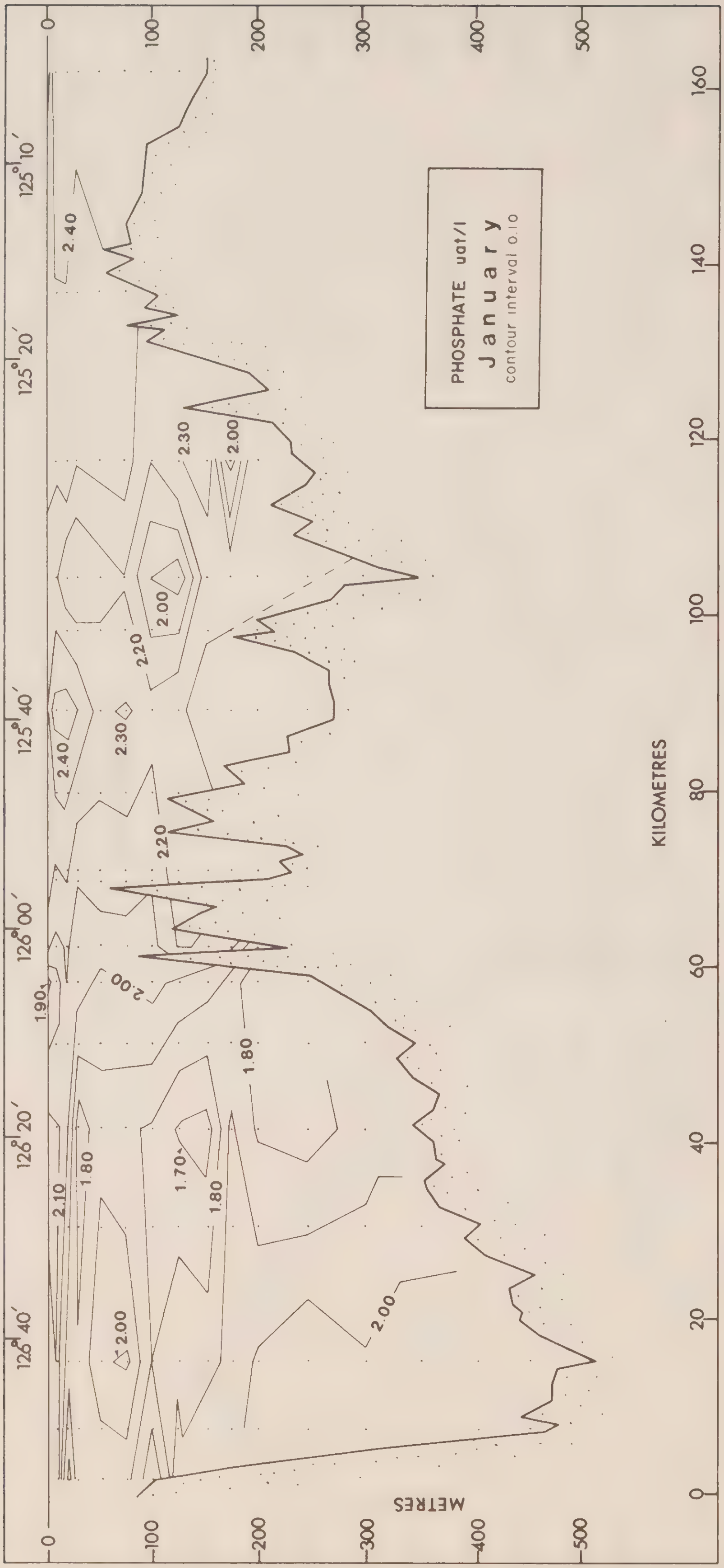

TEMPERATURE °C
January
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
7.60
7.70
7.80
7.90
8.00
8.50

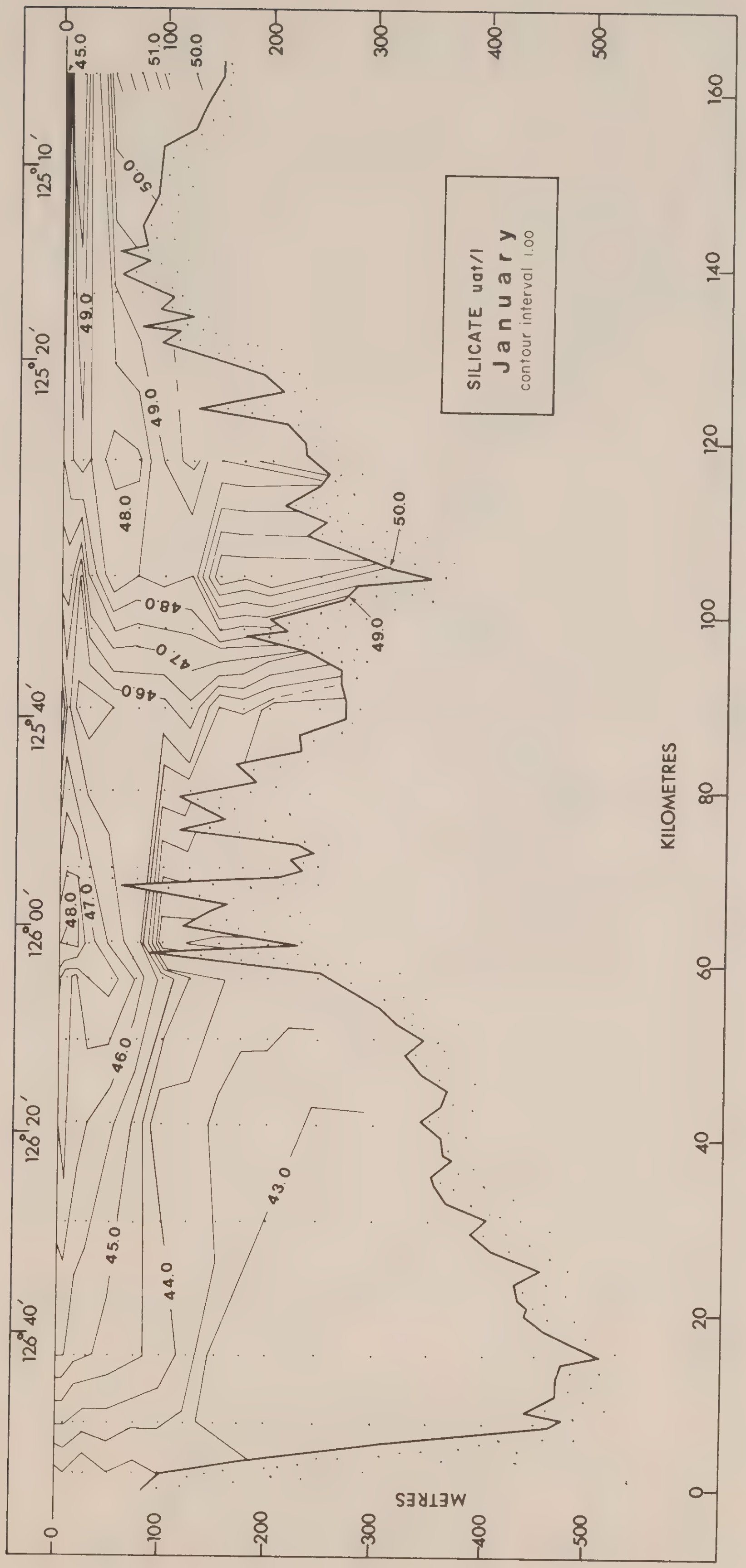

SALINITY ‰
January
contour interval 0.10
KILOMETRES
METRES
125° 10′
125° 20′
125° 40′
126° 00′
126° 20′
126° 40′
29.30
29.40
29.50
29.60
29.70
29.80
29.90
30.00
30.10
30.40
30.50
30.70
30.80
30.90
31.00
31.10
31.20

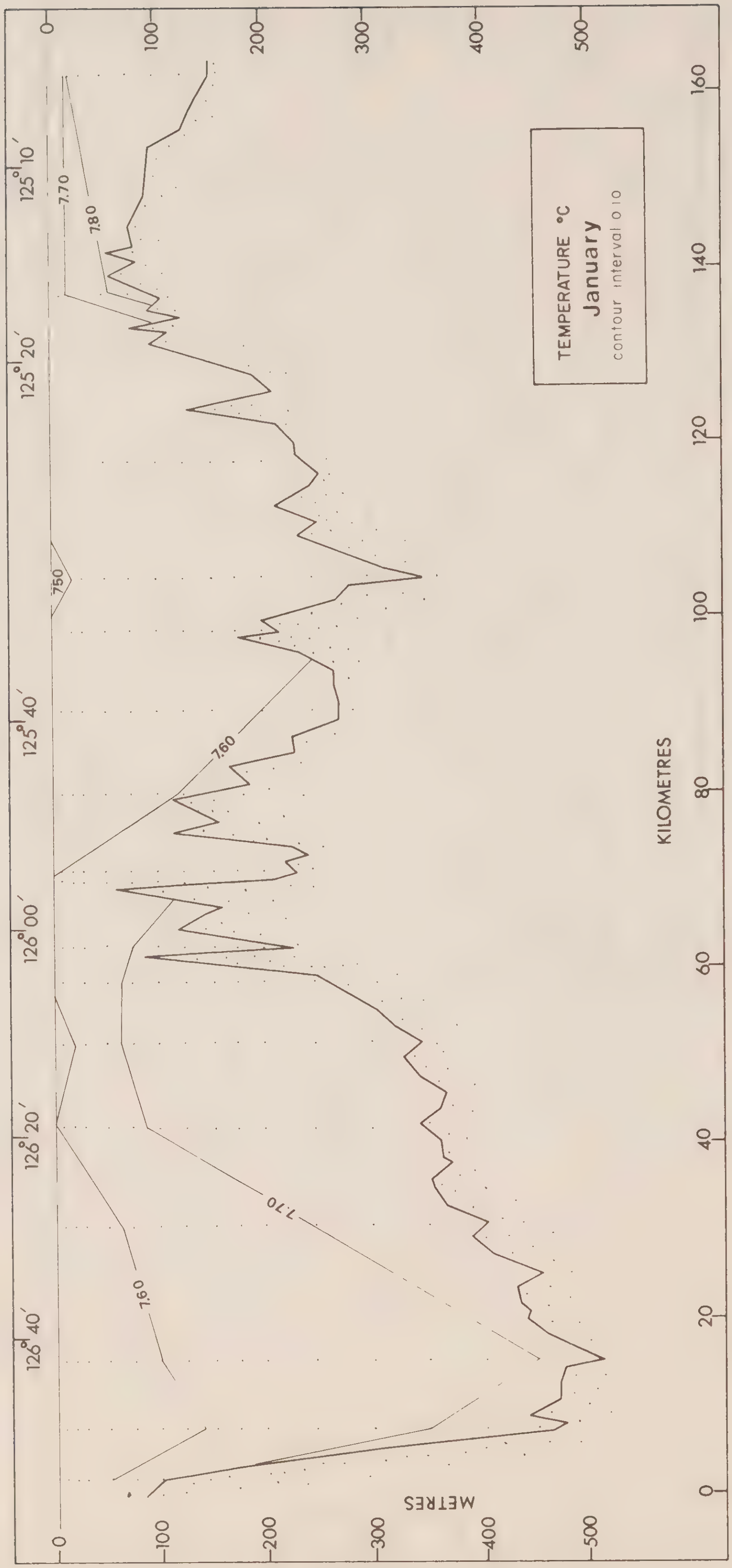

SIGMA-T
January
contour interval
KILOMETRES
METRES
125° 10′
125° 20′
125° 40′
126° 00′
126° 20′
126° 40′

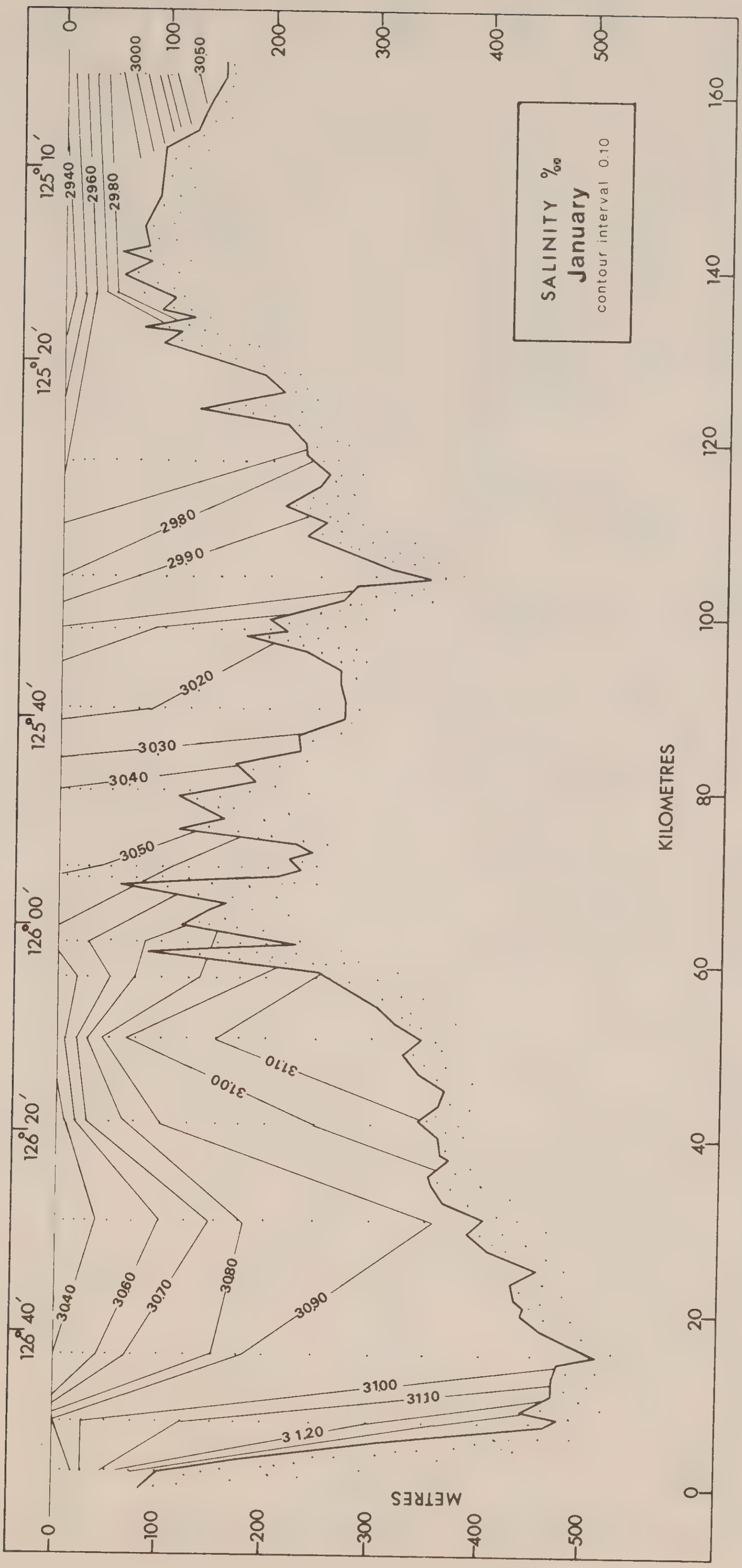

DISSOLVED OXYGEN ml/l
January
contour interval 0.10
METRES
KILOMETRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
6.50
5.80
5.60
5.40
5.20
5.00
4.80
4.60
3.70
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160

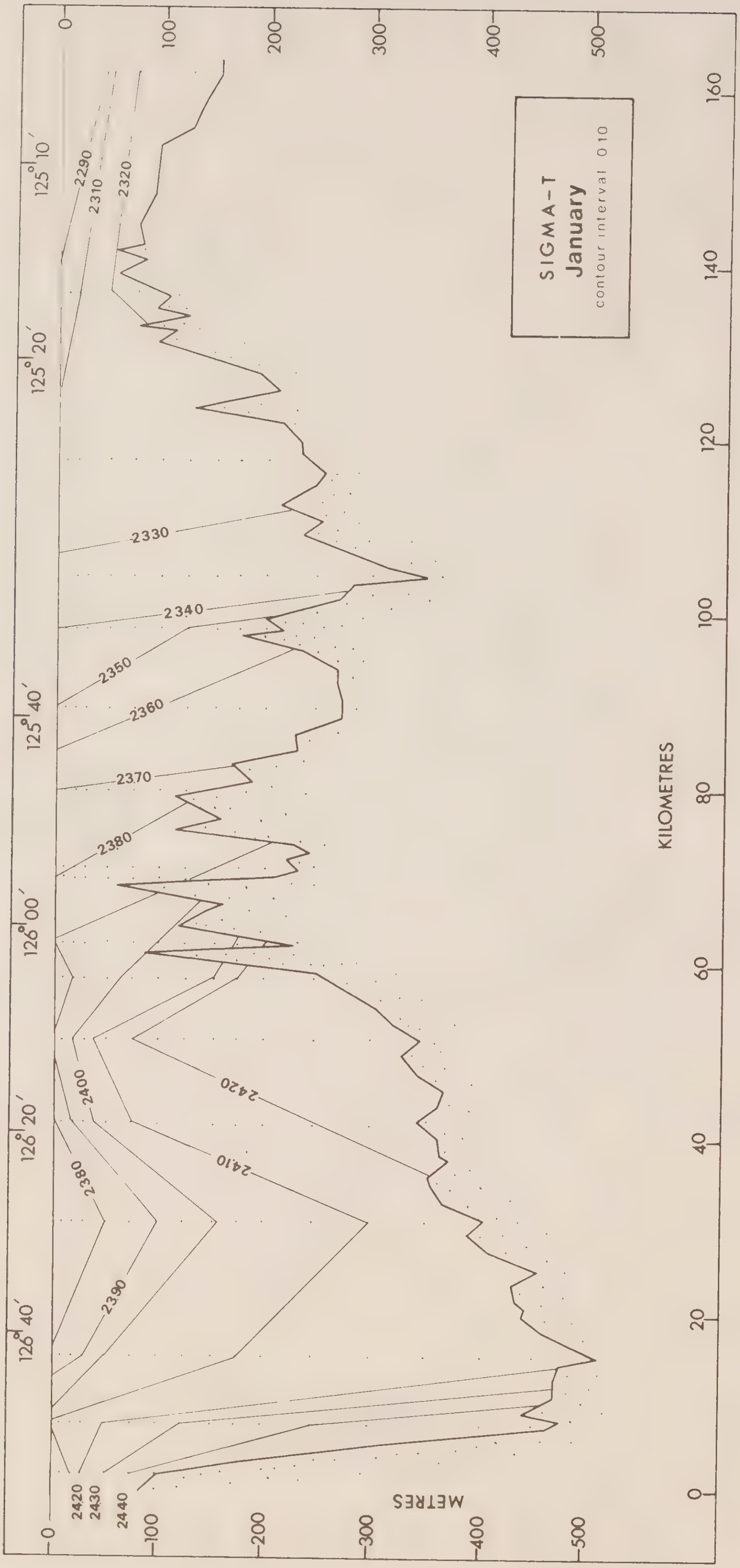

NITRATE uat/l
January
contour interval 1.00
KILOMETRES
METRES
126°40'
126°20'
126°00'
125°40'
125°20'
125°10'
0
20
40
60
80
100
120
140
160
0
100
200
300
400
500
26.25
27.5
28.0
28.5
27.0
26.5
26.0
25.5
25.0
24.5
24.0
23.5
23.75
23.25

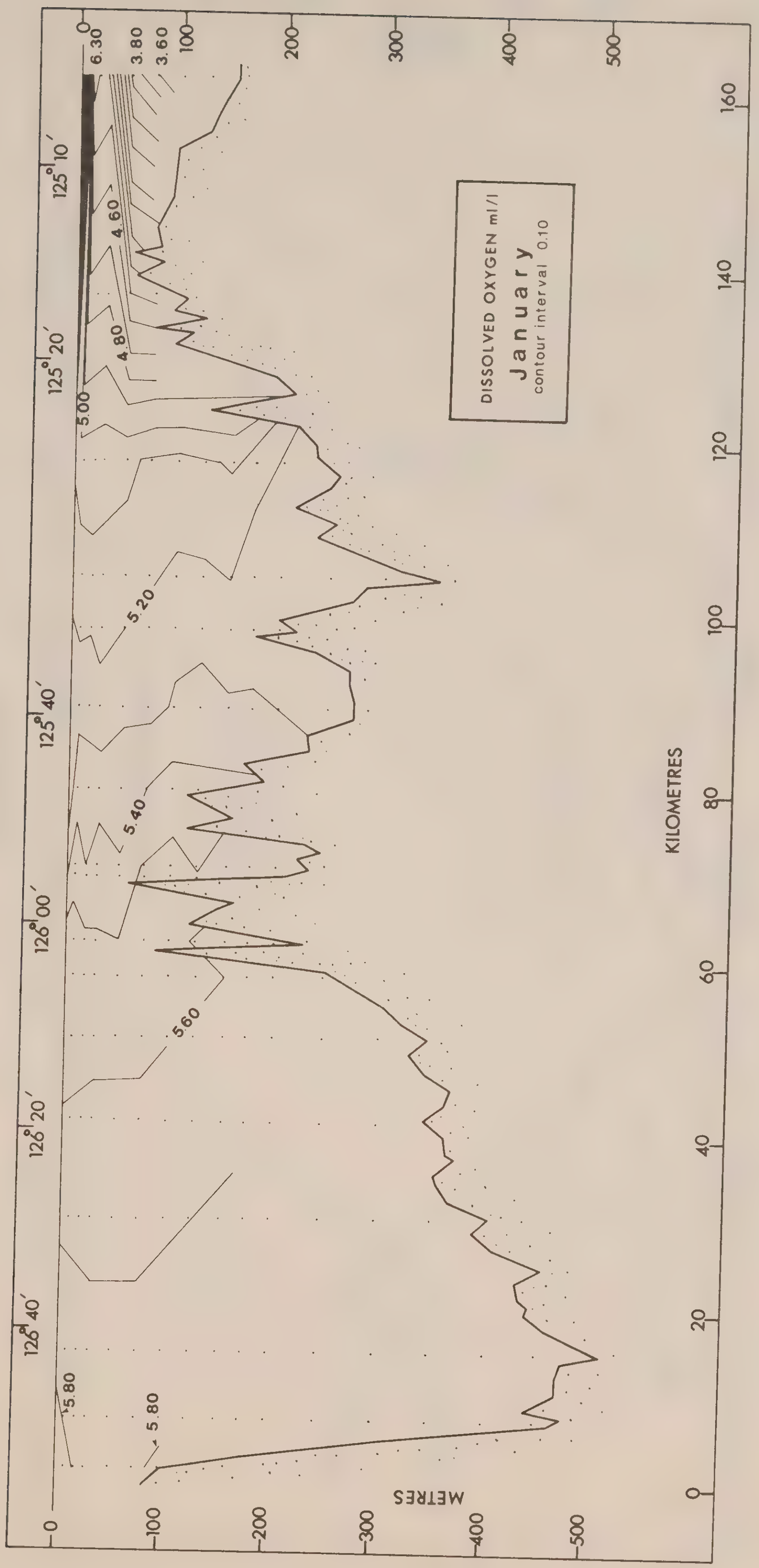

PHOSPHATE uat/l
January
contour interval 0.10
KILOMETRES
METRES
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160
126°40´
126°20´
126°00´
125°40´
125°20´
125°10´
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70


SILICATE uat/l
January
contour interval 1.00
KILOMETRES
METRES
125° 10′
125° 20′
125° 40′
126° 00′
126° 20′
126° 40′

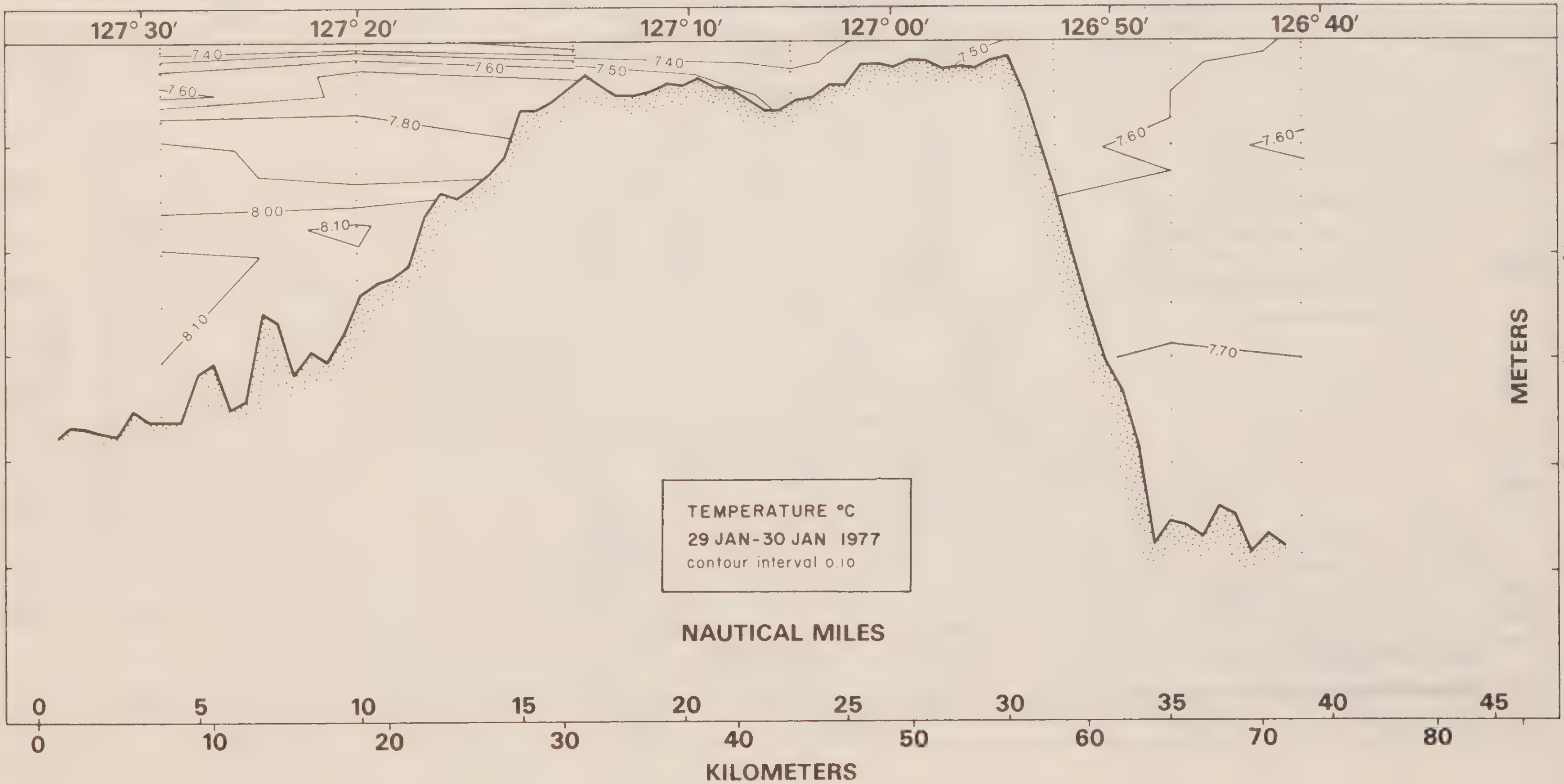

TEMPERATURE °C
January
contour interval 0.10
KILOMETRES
METRES
126°40´
126°20´
126°00´
125°40´
125°20´
125°10´
7.60
7.70
7.50
7.80
0
20
40
60
80
100
120
140
160
100
200
300
400
500


SALINITY ‰
January
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
3040
3060
3070
3080
3090
3100
3110
3120
3050
3030
3020
2990
2980
2960
2940
3000

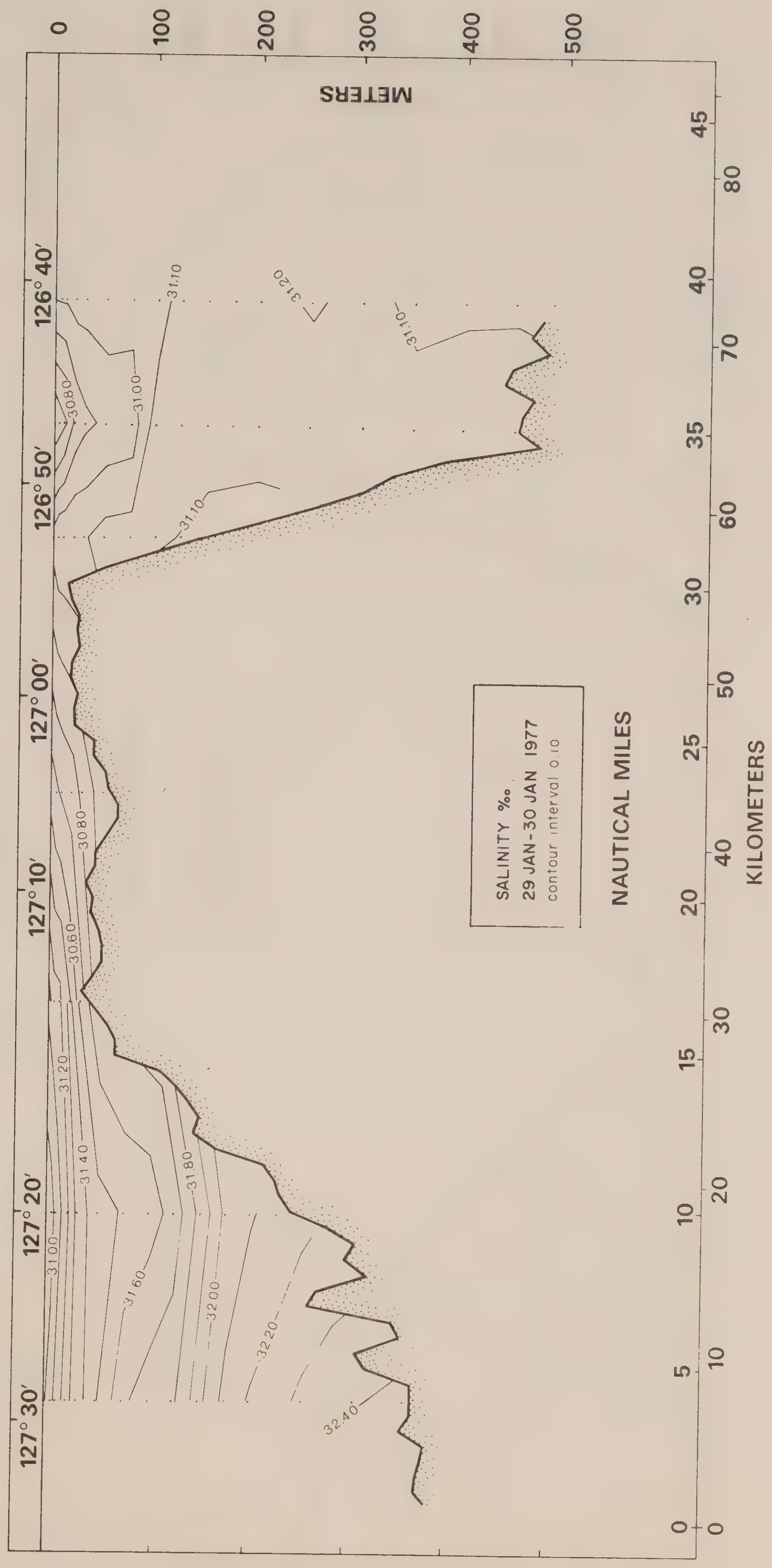

SIGMA-T
January
contour interval 010
KILOMETRES
METRES
125° 10′
125° 20′
125° 40′
126° 00′
126° 20′
126° 40′
2290
2310
2320
2330
2340
2350
2360
2370
2380
2390
2400
2410
2420
2430
2440
0
100
200
300
400
500
20
40
60
80
100
120
140
160



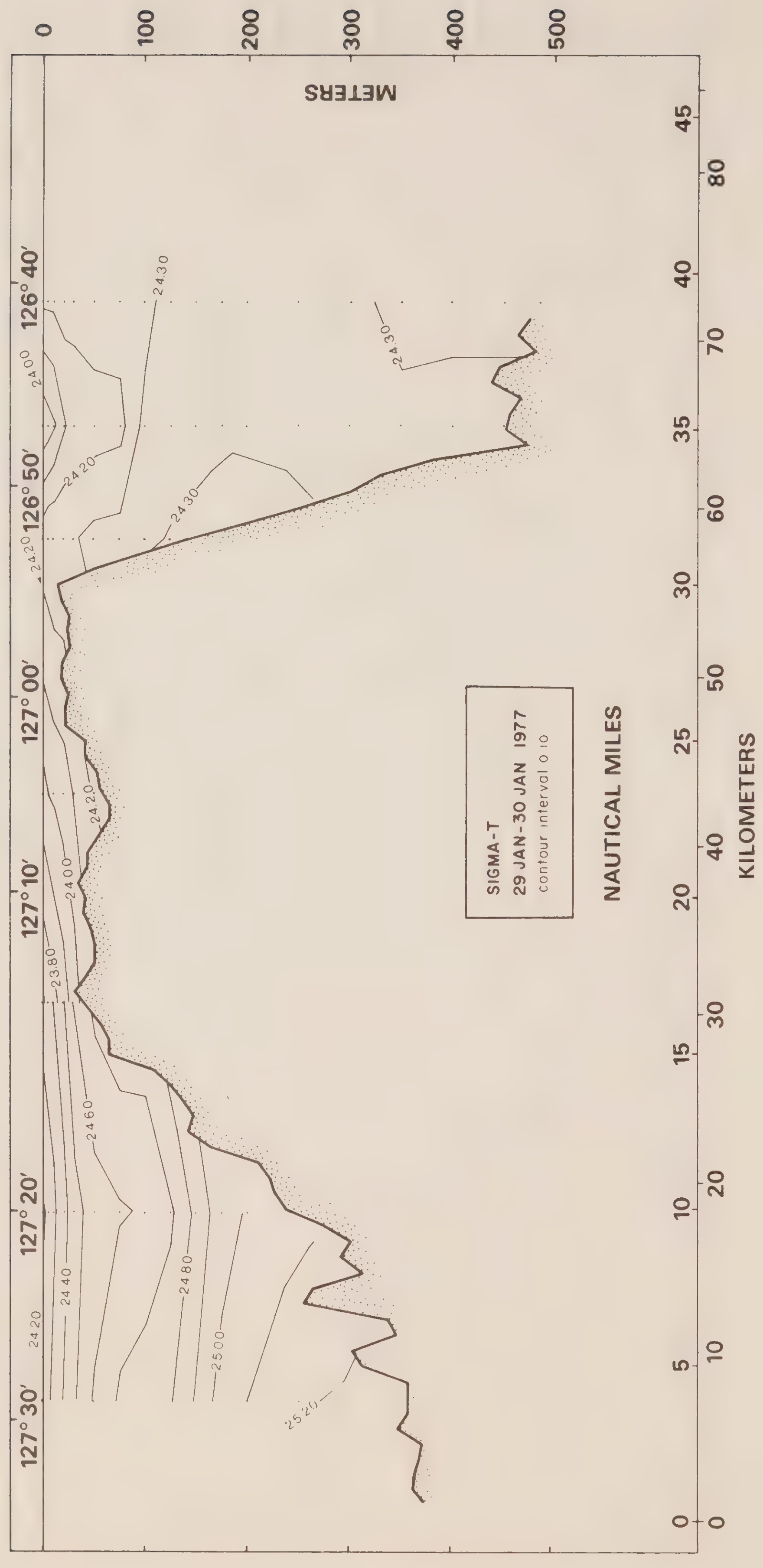
DISSOLVED OXYGEN ml/l
January
contour interval 0.10
KILOMETRES
METRES
0
20
40
60
80
100
120
140
160
100
200
300
400
500
126° 40′
126° 20′
126° 00′
125° 40′
125° 20′
125° 10′
5.80
5.80
5.60
5.40
5.20
5.00
4.80
4.60
6.30
3.80
3.60

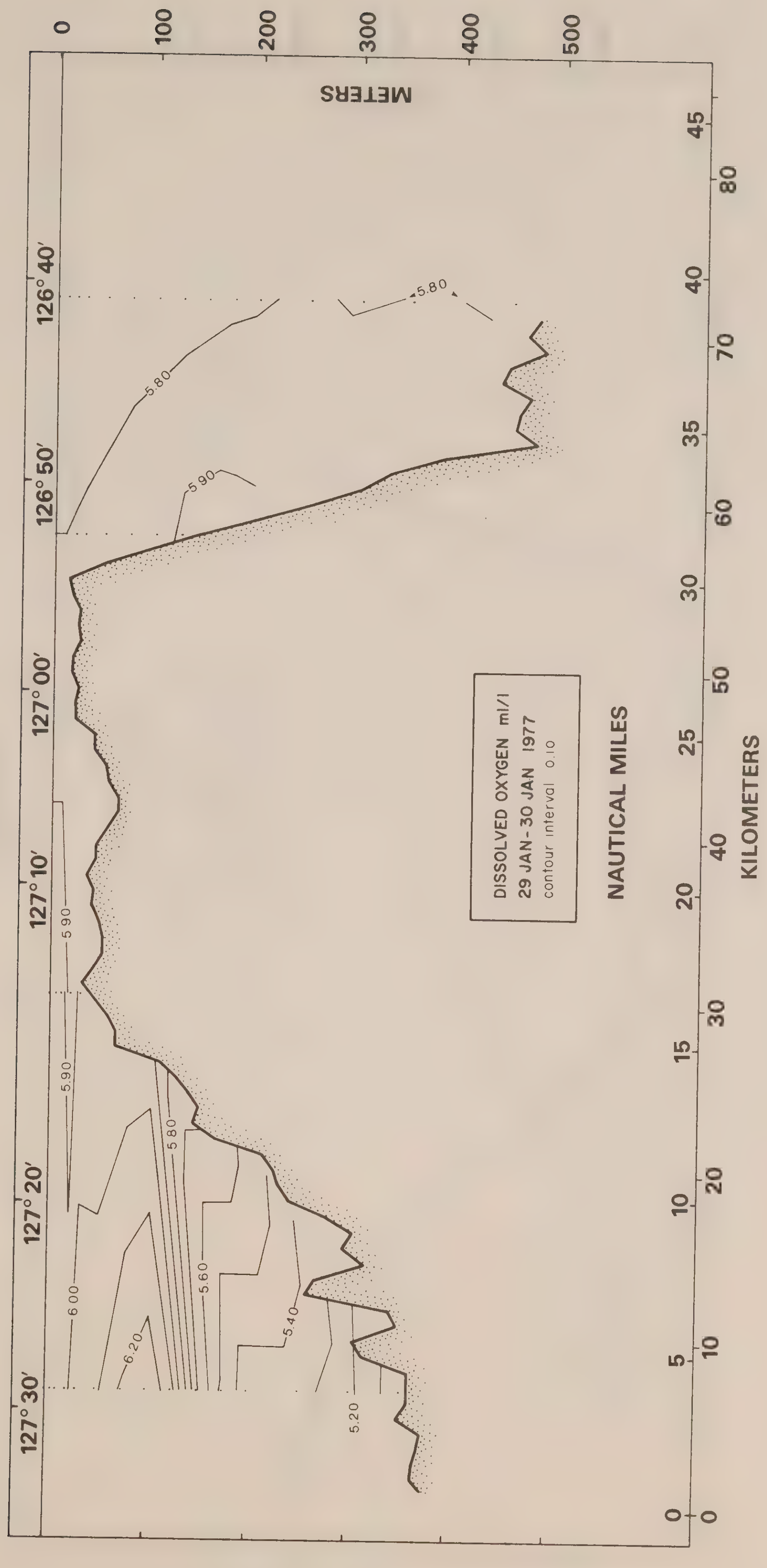


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
7.40
7.60
7.50
7.80
8.00
8.10
7.70
0
100
200
300
400
500
METERS
TEMPERATURE °C
29 JAN-30 JAN 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

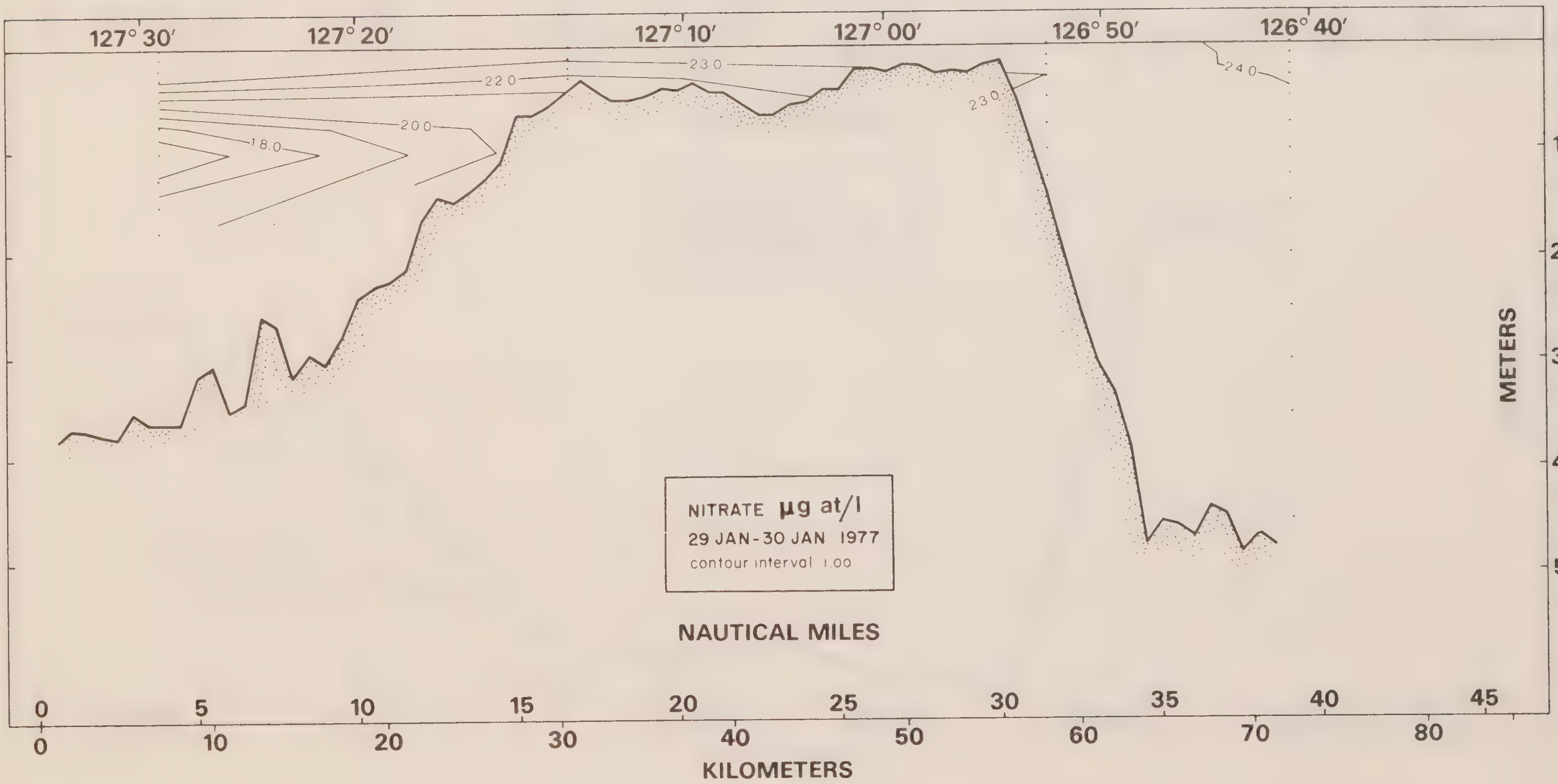


SALINITY ‰
29 JAN - 30 JAN 1977
contour interval 0.10
METERS
NAUTICAL MILES
KILOMETERS
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′

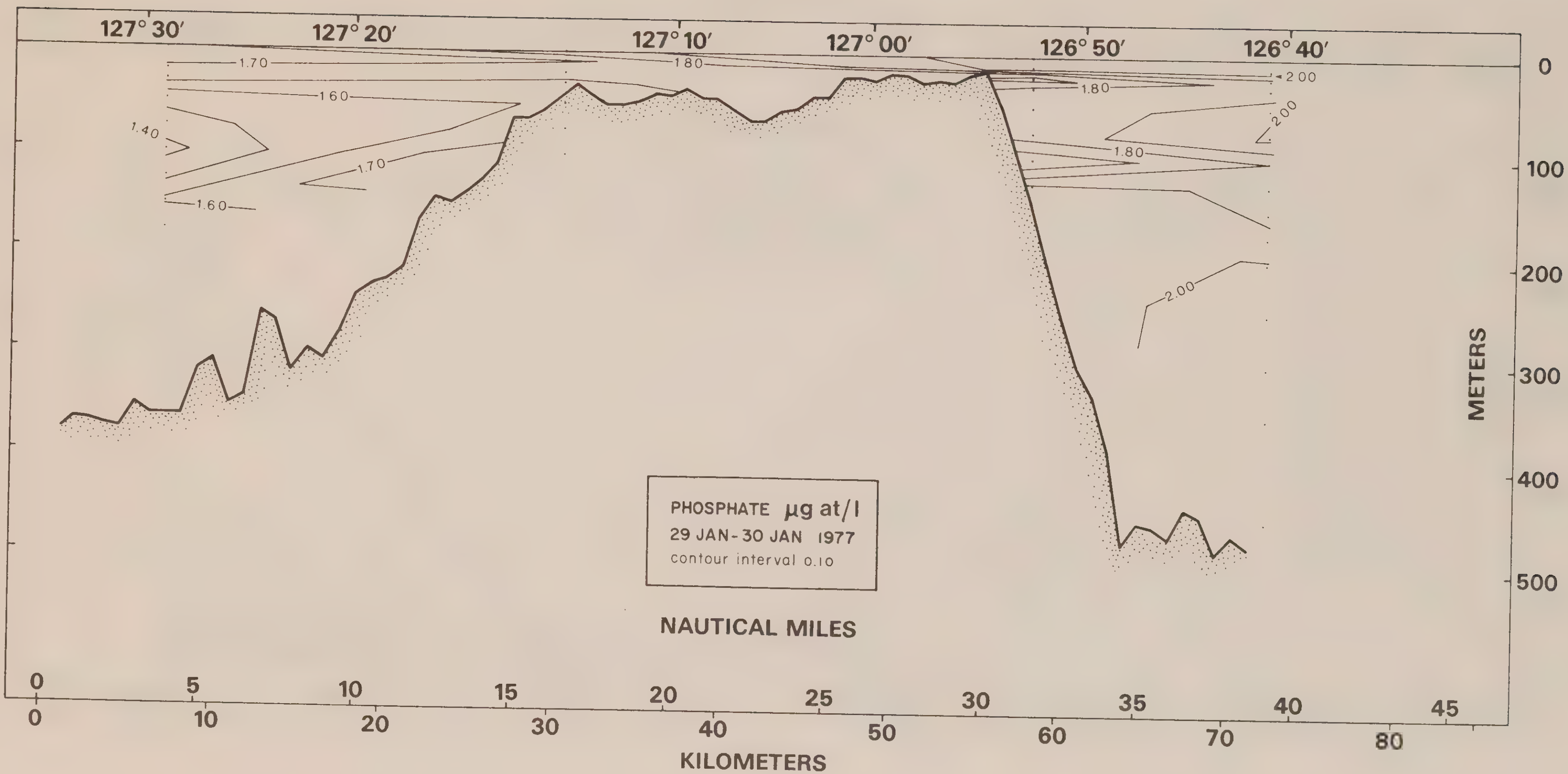

SIGMA-T
29 JAN-30 JAN 1977
contour interval 0.10
METERS
0
100
200
300
400
500
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
KILOMETERS
0
10
20
30
40
50
60
70
80
23.80
24.00
24.20
24.30
24.40
24.60
24.80
25.00
25.20



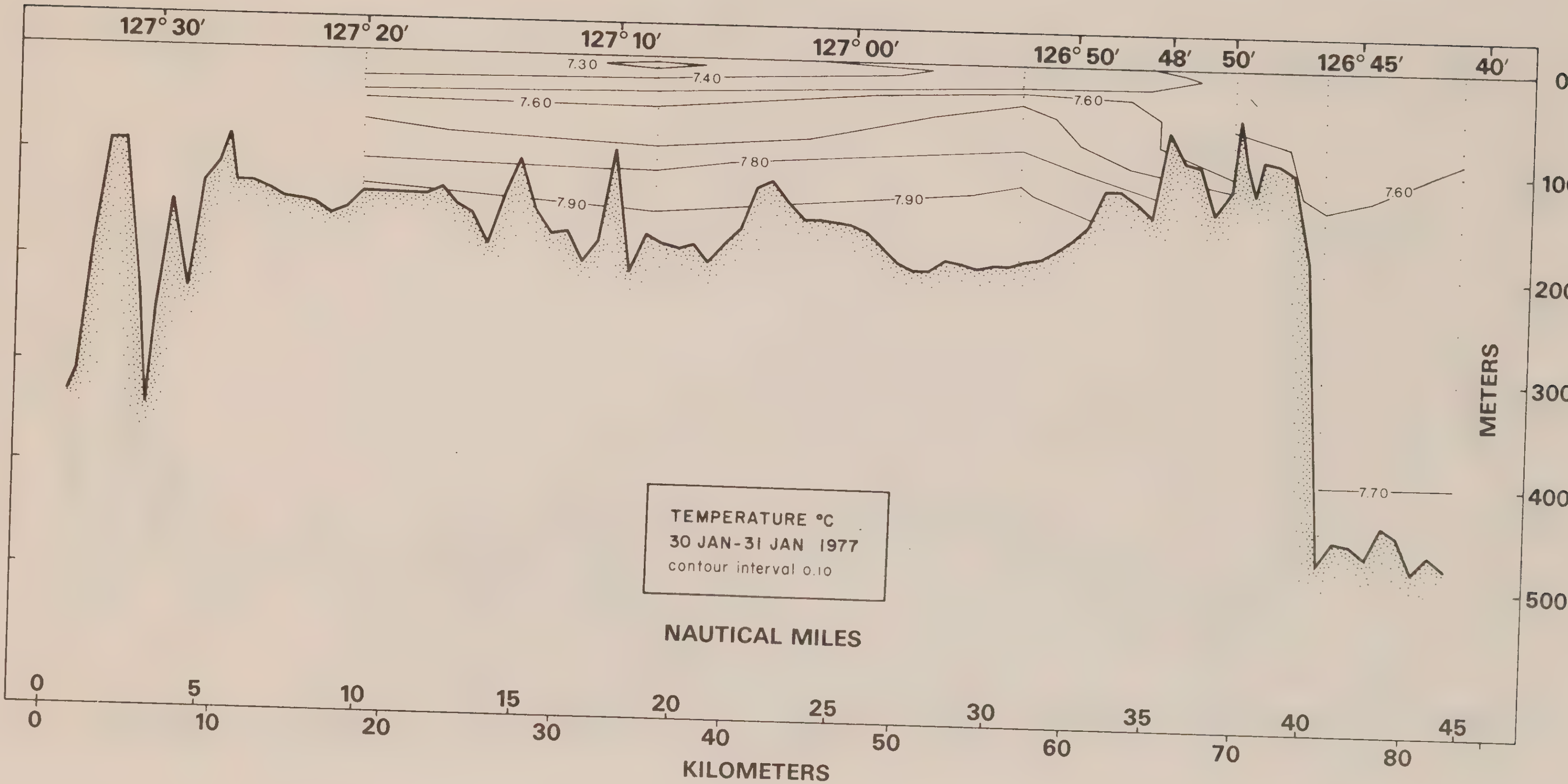
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
6.00
5.90
5.90
6.20
5.80
5.60
5.40
5.20
5.80
5.90
5.80
0
100
200
300
400
500
METERS
DISSOLVED OXYGEN ml/l
29 JAN-30 JAN 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

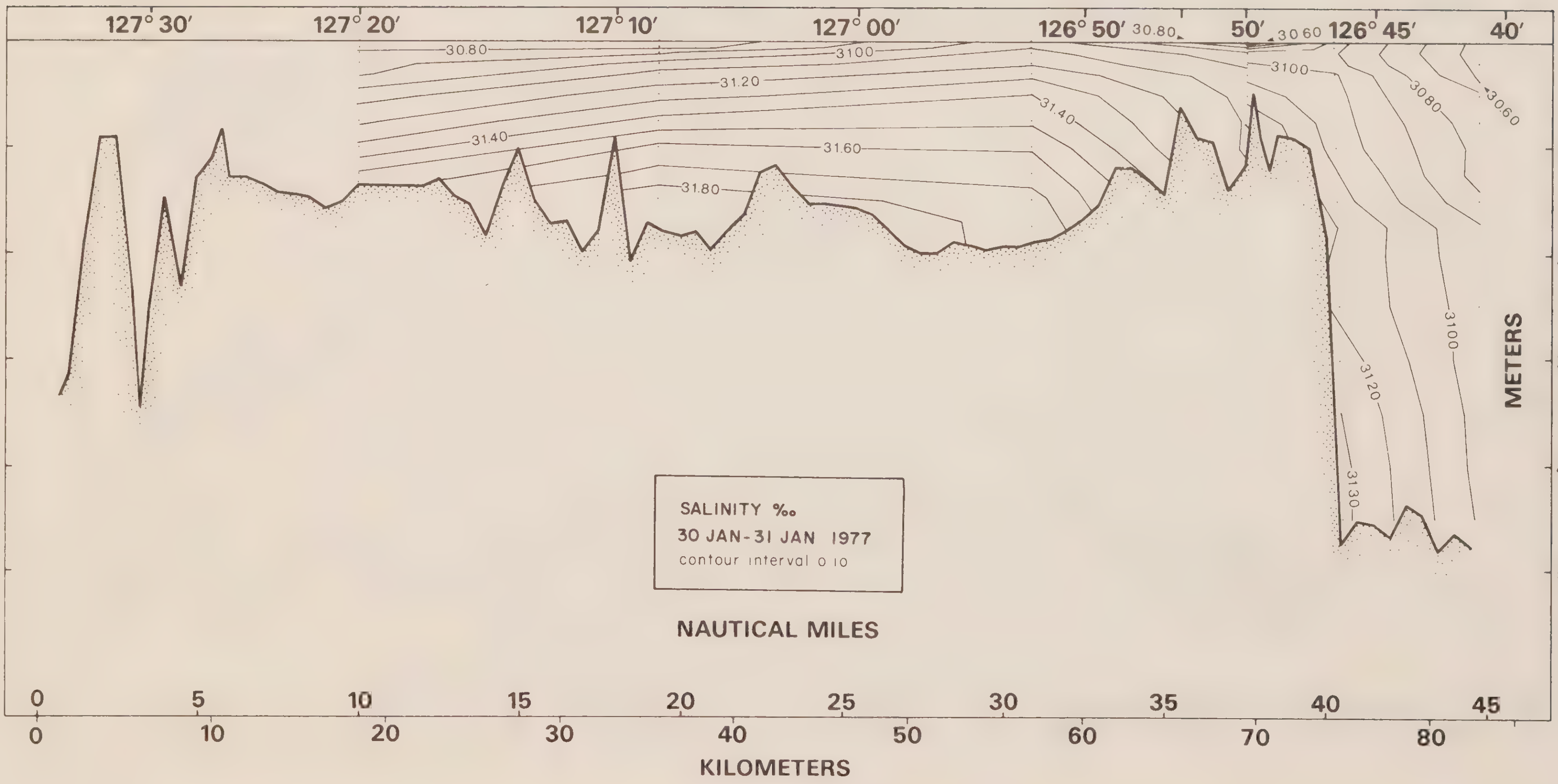


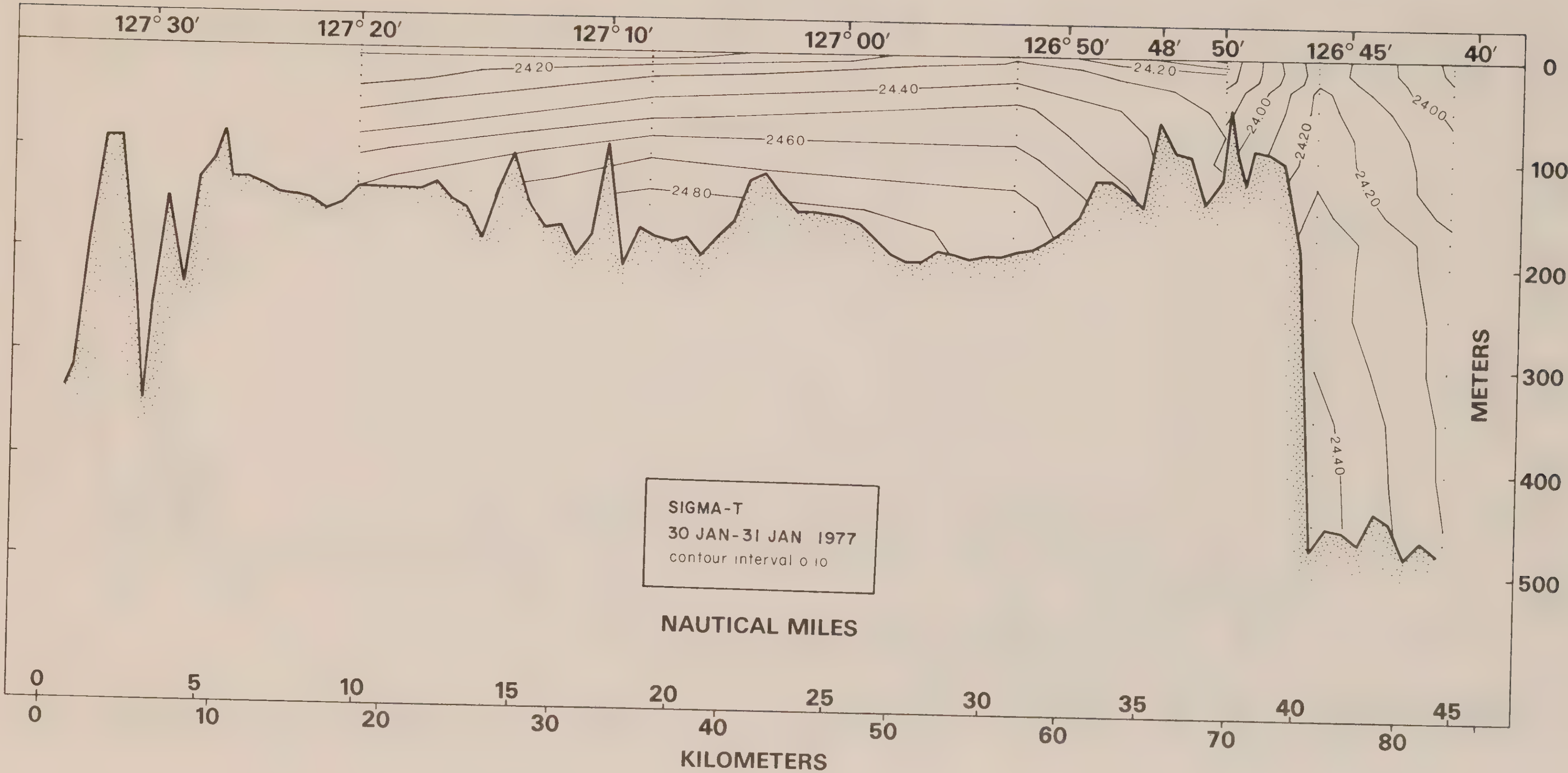
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
METERS
0
100
200
300
400
500
23.0
22.0
20.0
18.0
24.0
NITRATE µg at/l
29 JAN-30 JAN 1977
contour interval 1.00
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
KILOMETERS
0
10
20
30
40
50
60
70
80

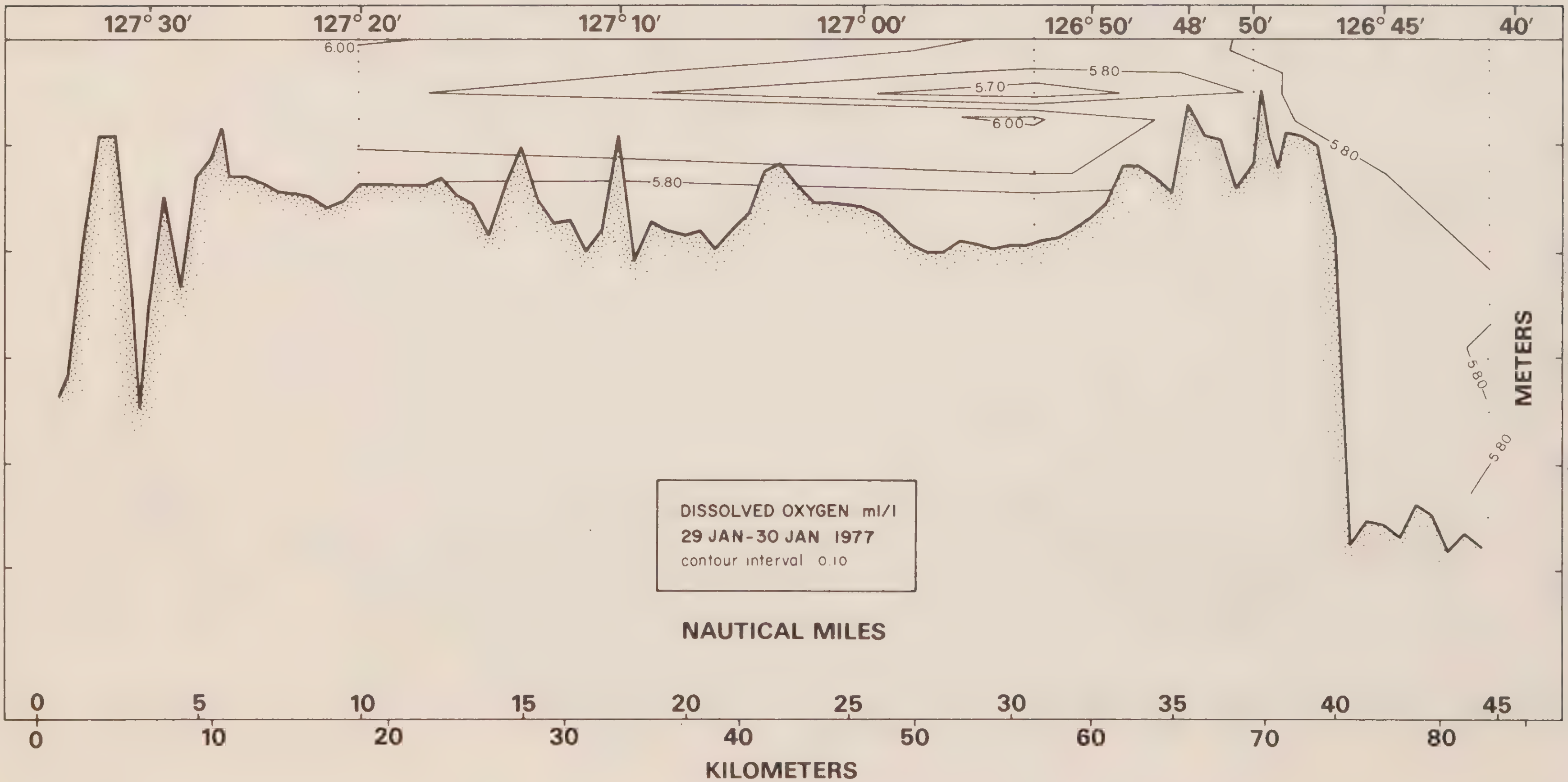

127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
1.70
1.80
1.60
1.40
1.70
1.60
2.00
2.00
1.80
1.80
2.00
0
100
200
300
400
500
METERS
PHOSPHATE µg at/l
29 JAN - 30 JAN 1977
contour interval 0.10
NAUTICAL MILES
0 5 10 15 20 25 30 35 40 45
0 10 20 30 40 50 60 70 80
KILOMETERS

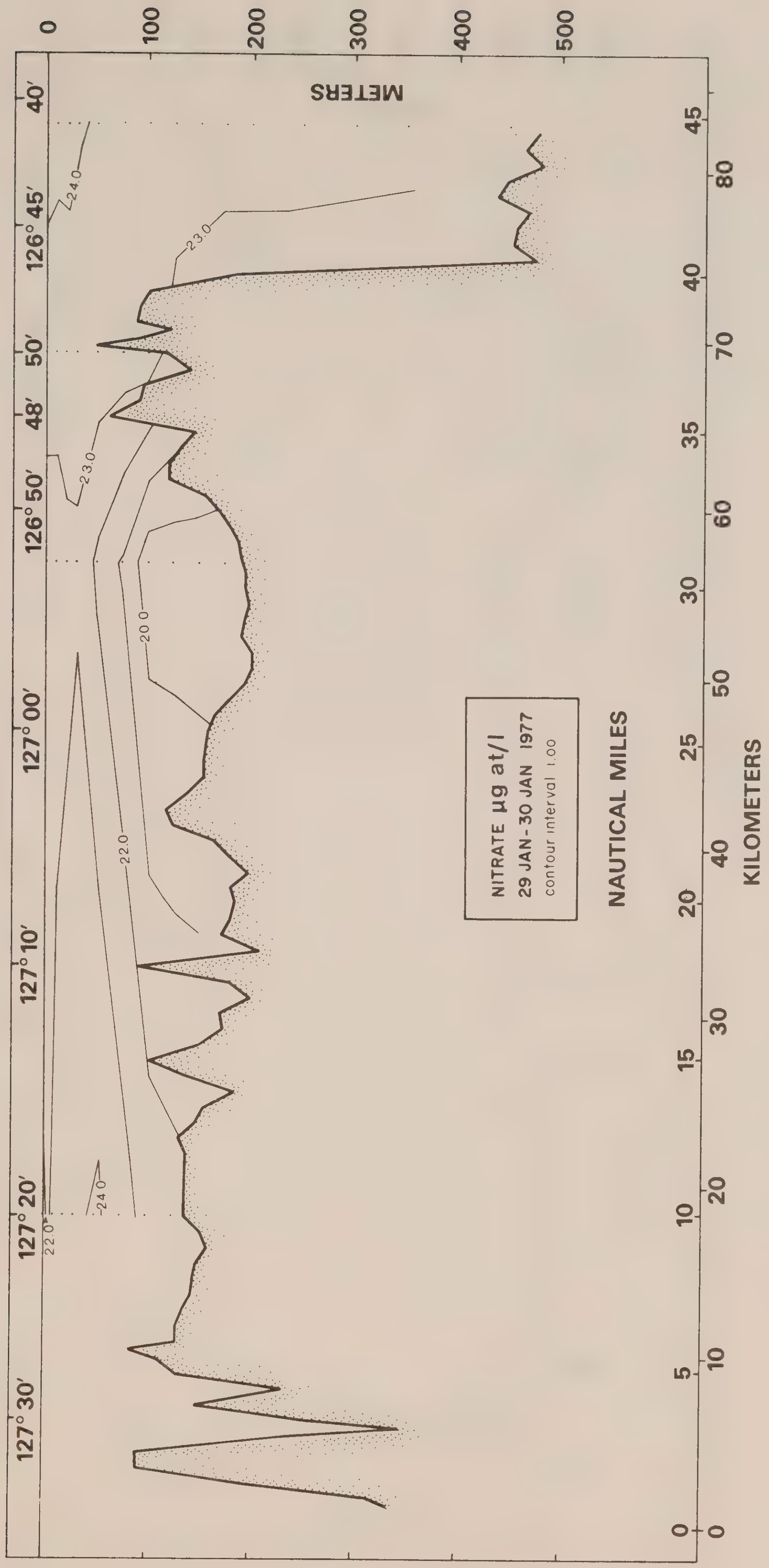
SILICATE µg at/l
29 JAN-30 JAN 1977
contour interval 1.00
METERS
0
100
200
300
400
500
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
KILOMETERS
0
10
20
30
40
50
60
70
80
28.0
30.0
32.0
34.0
36.0
38.0
40.0
42.0
43.0
44.0
45.0

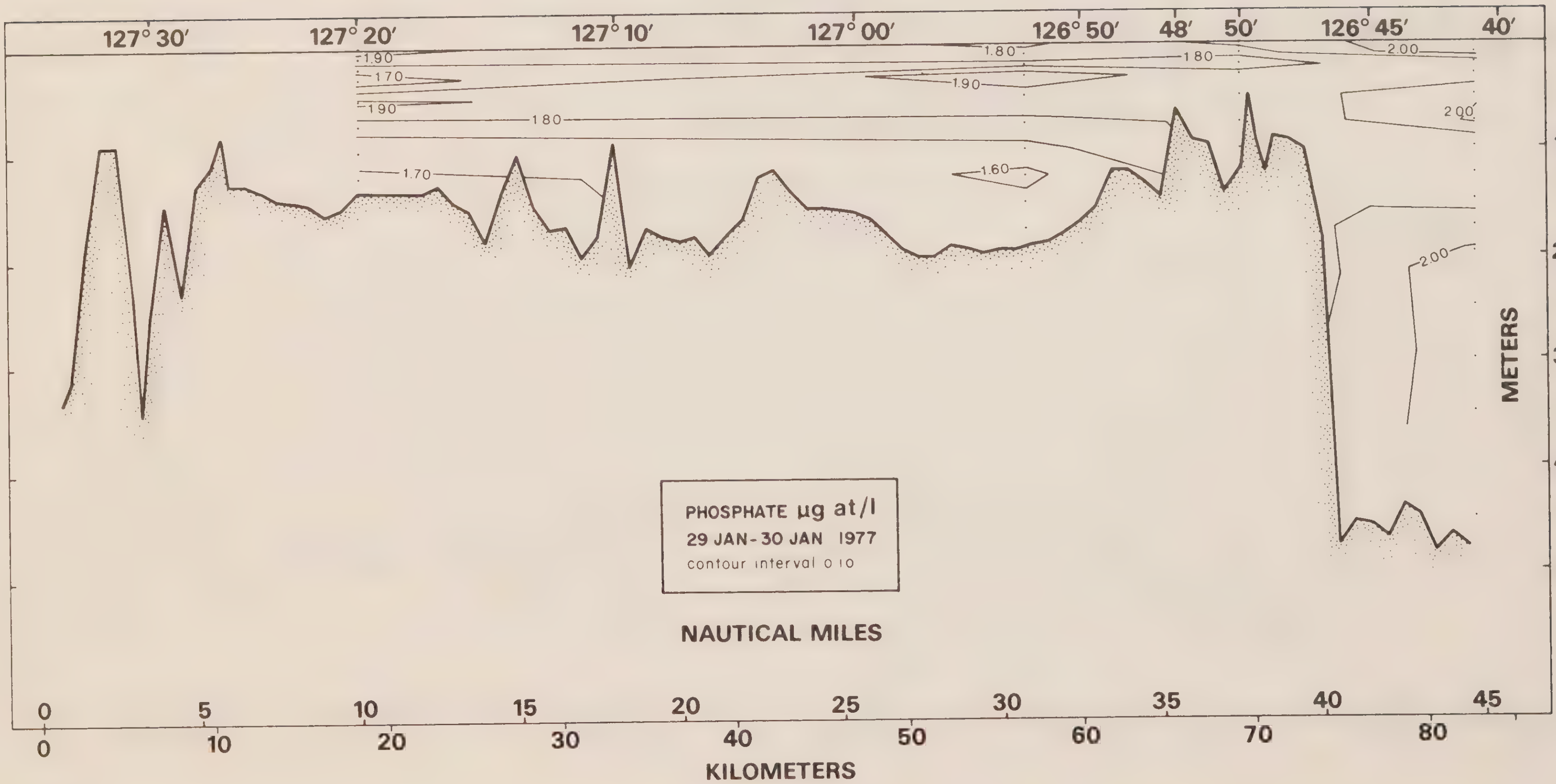

127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
7.30
7.40
7.60
7.80
7.90
7.90
7.60
7.70
METERS
0
100
200
300
400
500
TEMPERATURE °C
30 JAN-31 JAN 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

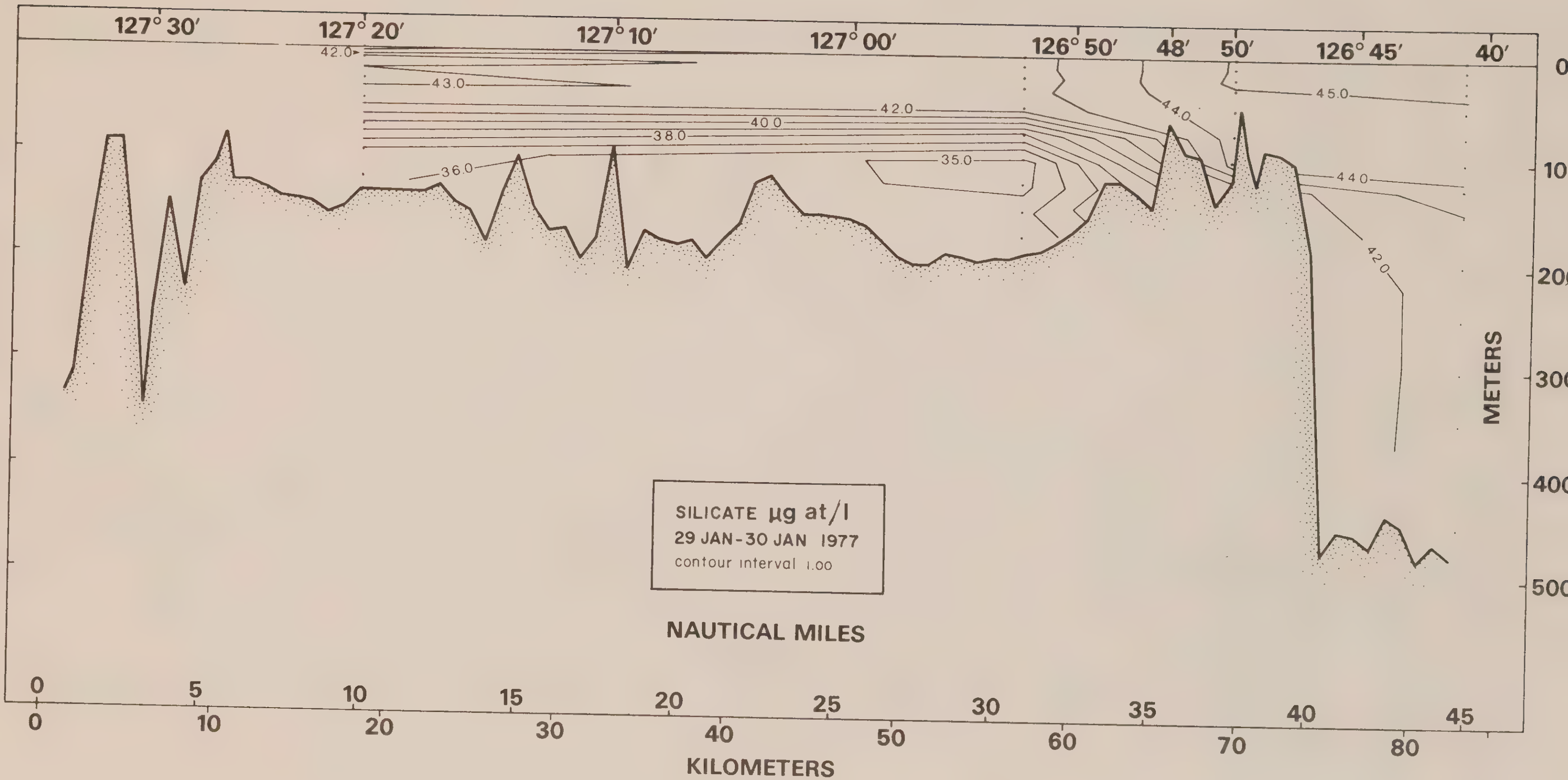

127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
50′
126° 45′
40′
30.80
31.00
31.20
31.40
31.60
31.80
30.60
31.20
31.30
METERS
SALINITY ‰
30 JAN-31 JAN 1977
contour interval 0.10
NAUTICAL MILES
KILOMETERS


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
24 20
24.40
24 60
24 80
24.20
24.00
24 00
24.20
24.40
0
100
200
300
400
500
METERS
SIGMA-T
30 JAN-31 JAN 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
6.00
5.80
5.70
6.00
5.80
5.80
5.80
5.80
0
100
200
300
400
500
METERS
DISSOLVED OXYGEN ml/l
29 JAN-30 JAN 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS


NITRATE μg at/l
29 JAN-30 JAN 1977
contour interval 1.00
NAUTICAL MILES
KILOMETERS
METERS
127° 30'
127° 20'
127° 10'
127° 00'
126° 50'
48'
50'
126° 45'
40'
24.0
23.0
22.0
20.0


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
1.90
1.70
1.90
1.80
1.70
1.80
1.90
1.60
1.80
2.00
2.00
2.00
0
100
200
300
400
500
METERS
PHOSPHATE µg at/l
29 JAN - 30 JAN 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

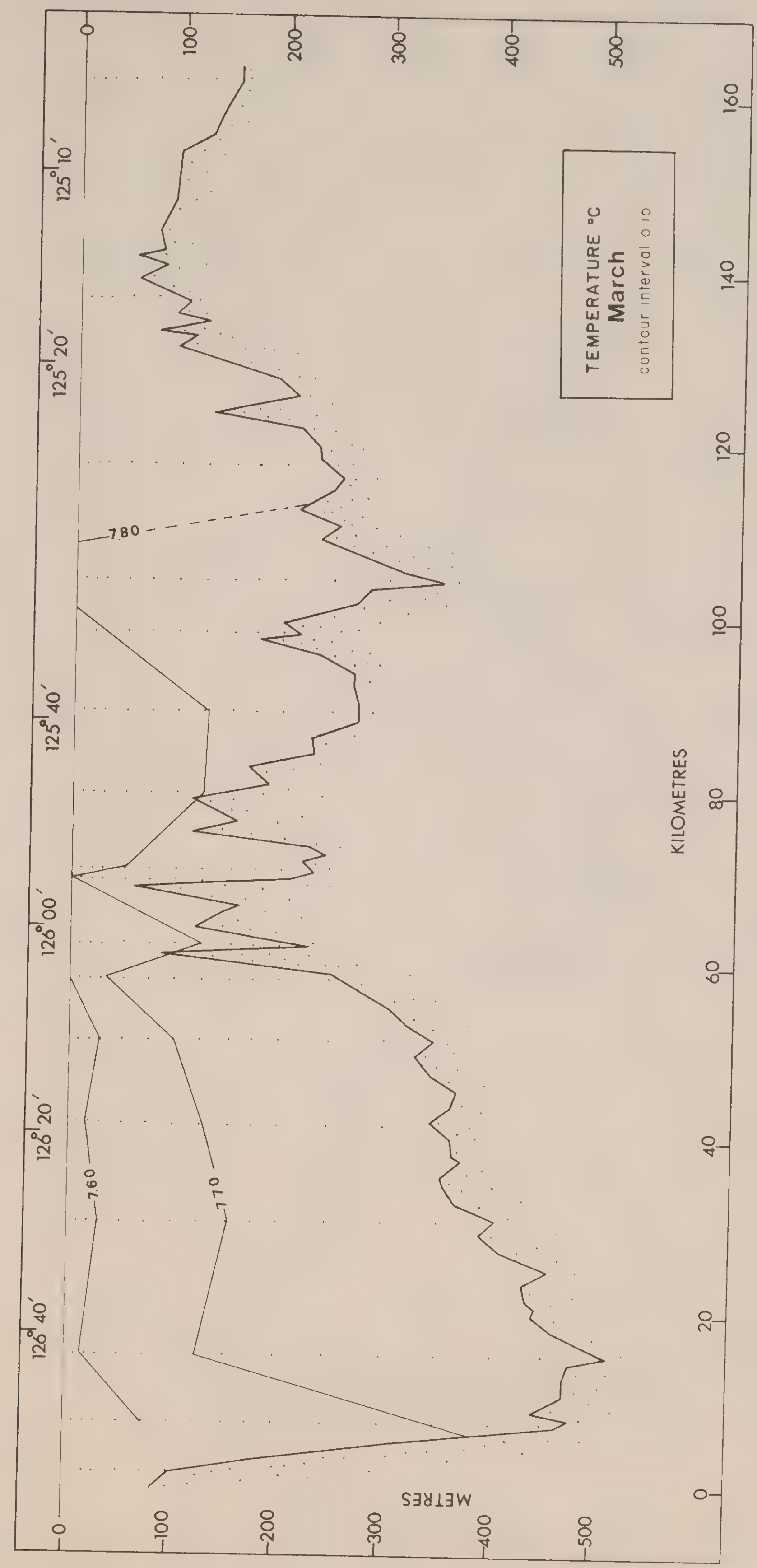


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
42.0
43.0
42.0
40.0
38.0
36.0
35.0
44.0
45.0
44.0
42.0
0
100
200
300
400
500
METERS
SILICATE µg at/l
29 JAN-30 JAN 1977
contour interval 1.00
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

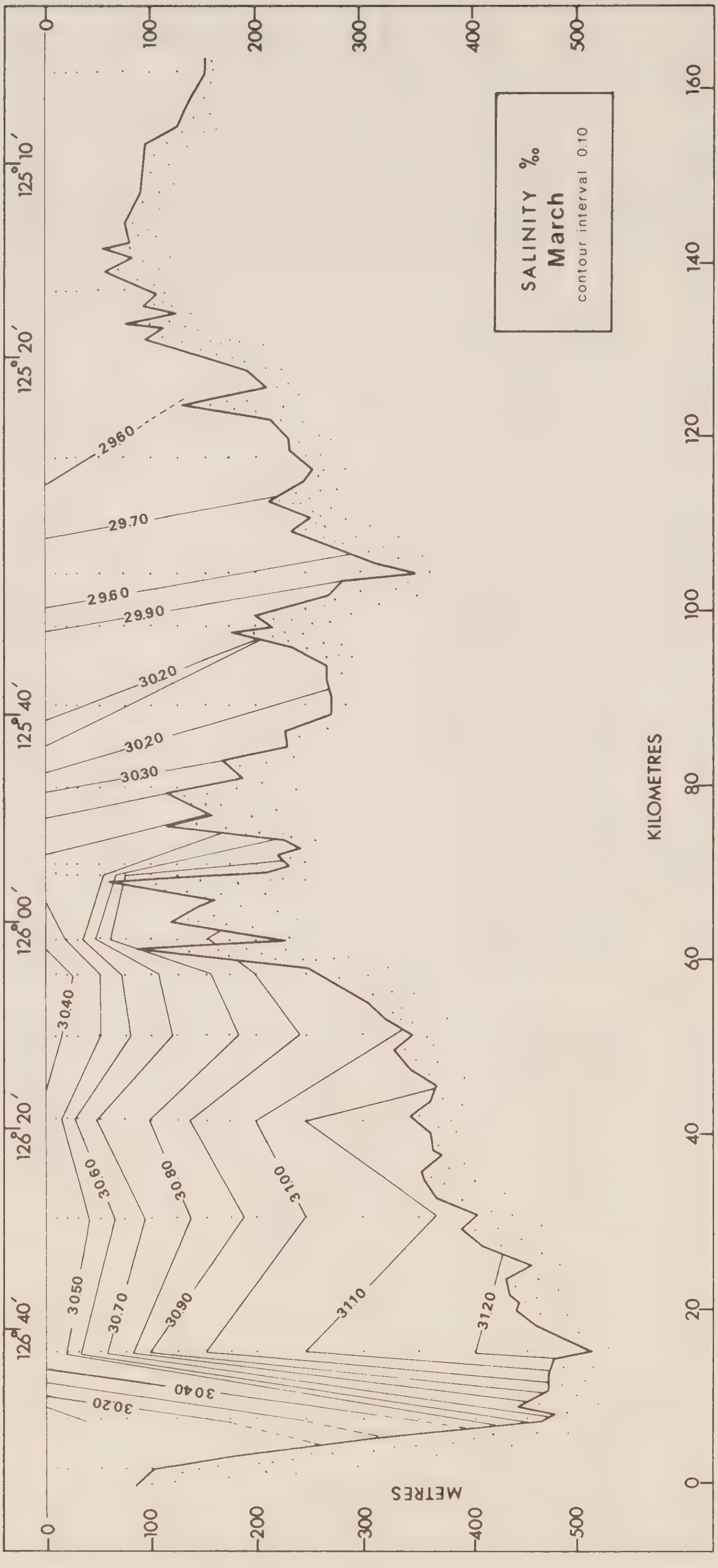
## 3.4 Cruise 77-11 (March 1977)

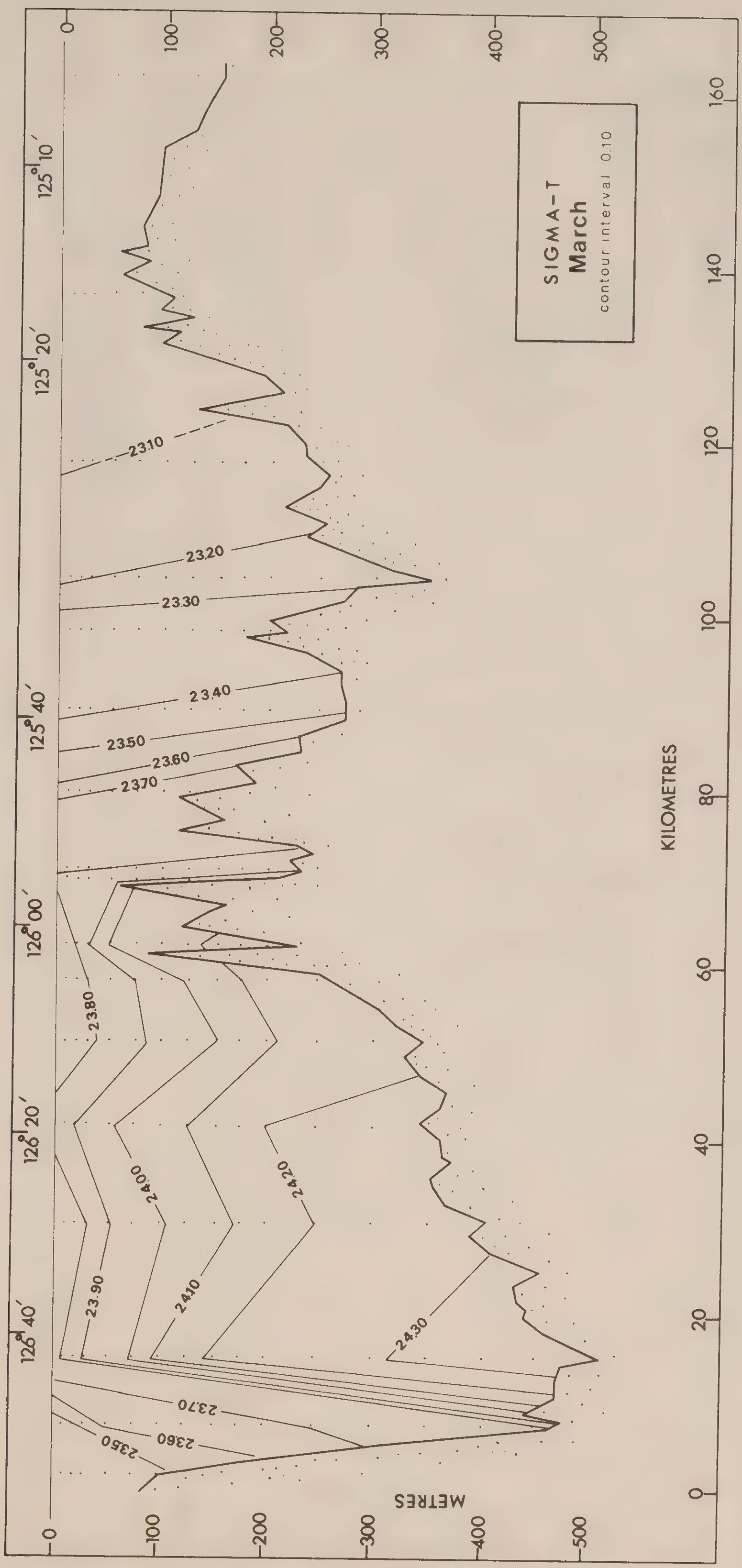
Mid-channel sections of temperature, salinity, sigma-t, dissolved oxygen, nitrate, phosphate and silicate.

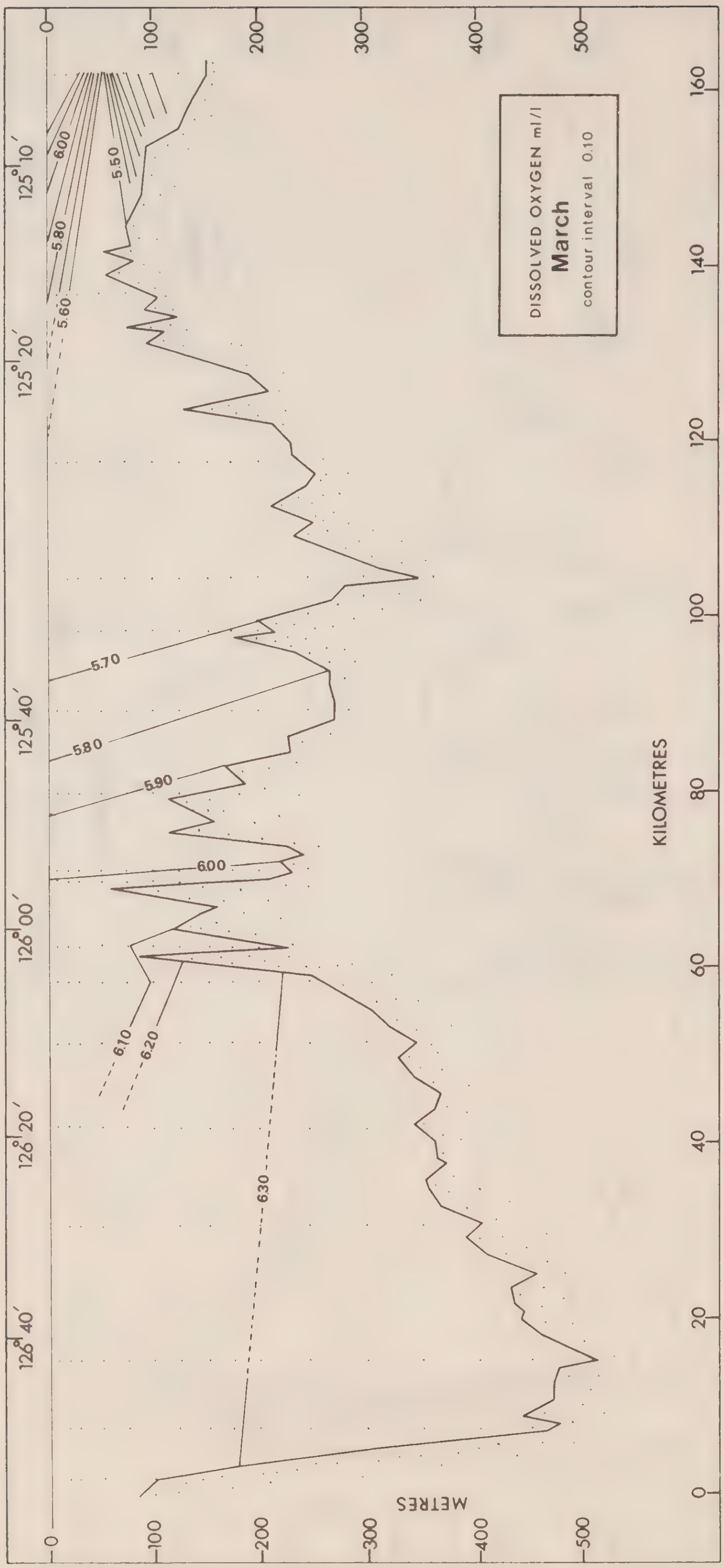
Plots are presented in the following sequence: inbound Johnstone Strait - Discovery Passage transect; Goletas Channel - Broughton Strait transect; and Gordon Channel - Broughton Strait transect. Due to few data, dissolved oxygen and nutrient sections are not available for Queen Charlotte Strait (see Appendices C to E).

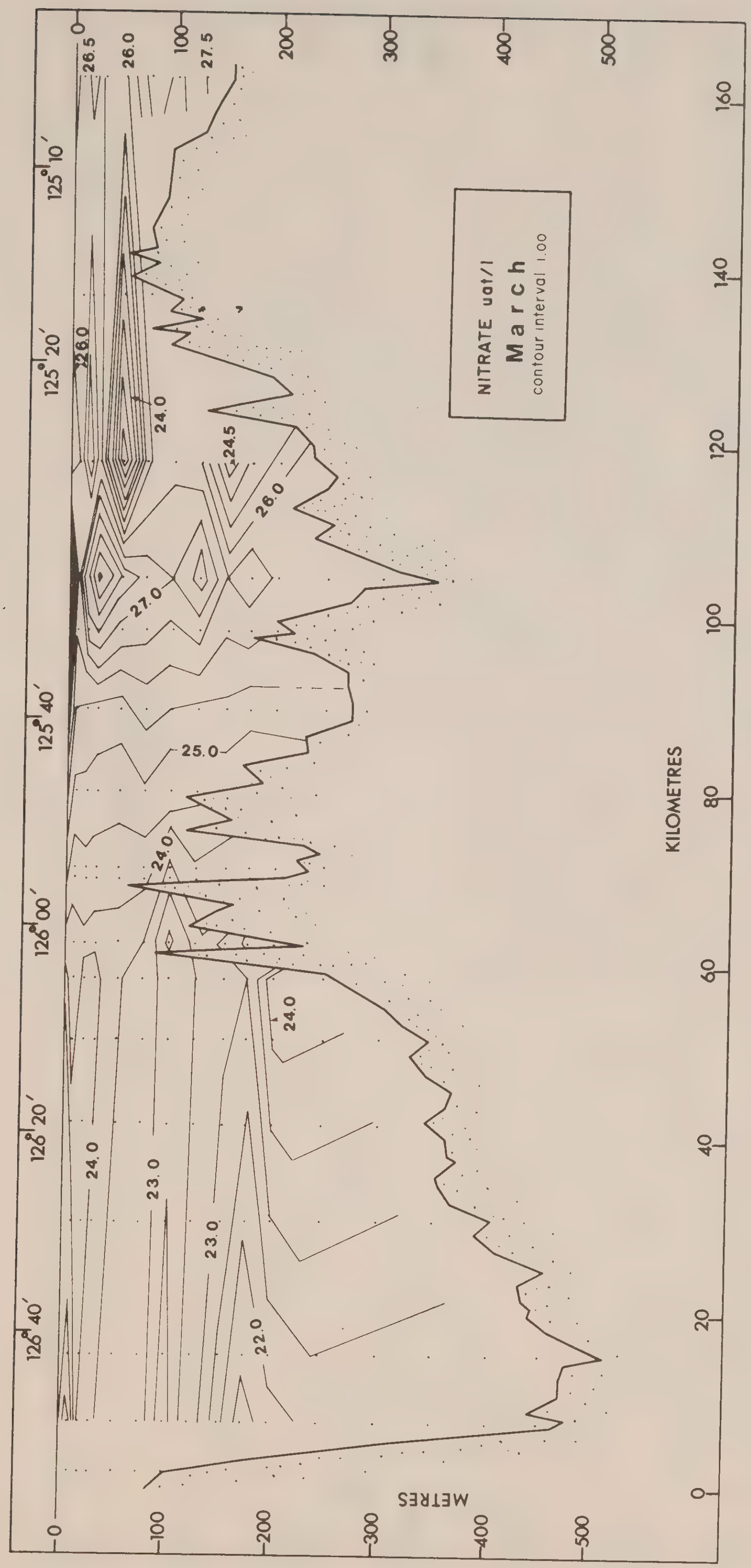


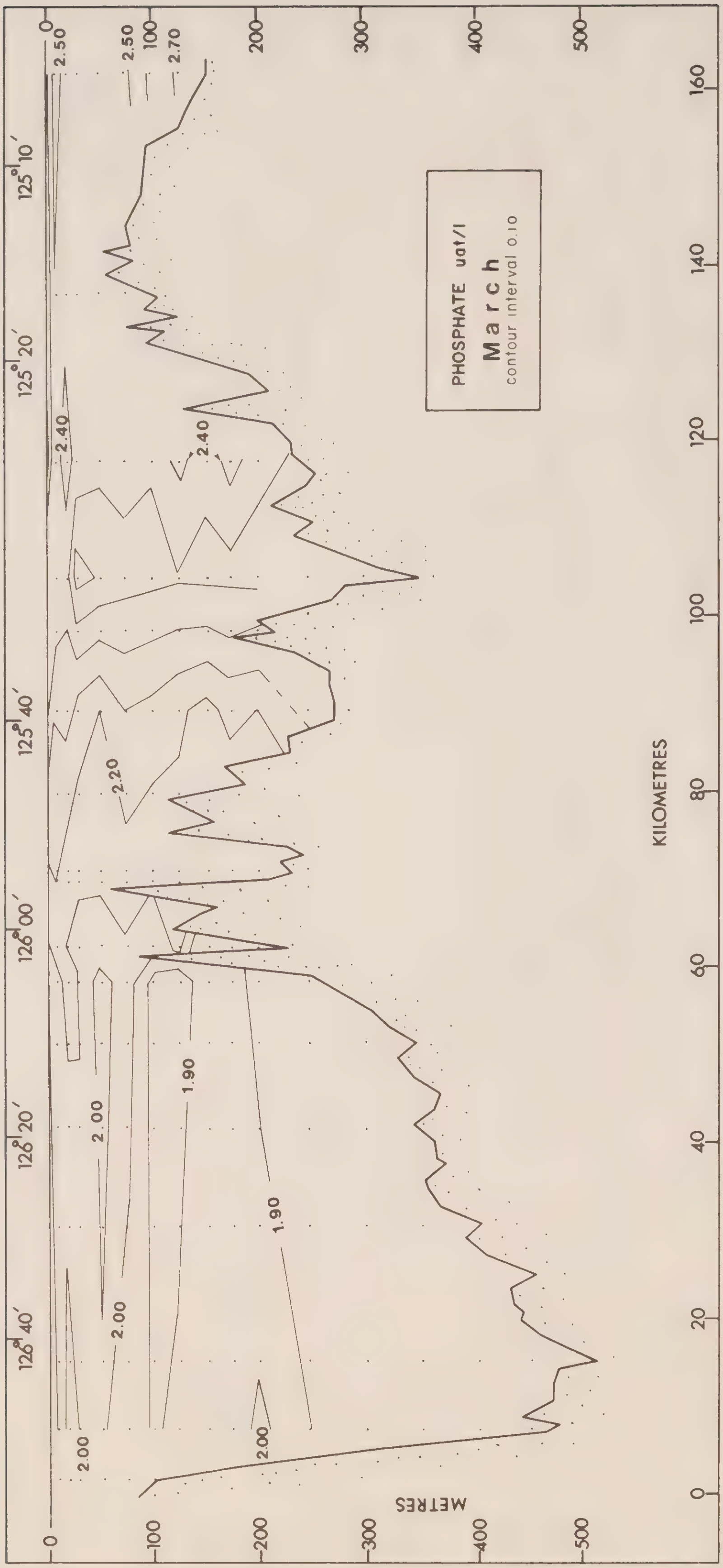
TEMPERATURE °C
March
contour interval 0.10
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
7.60
7.70
7.80
METRES
KILOMETRES
0
100
200
300
400
500
20
40
60
80
100
120
140
160

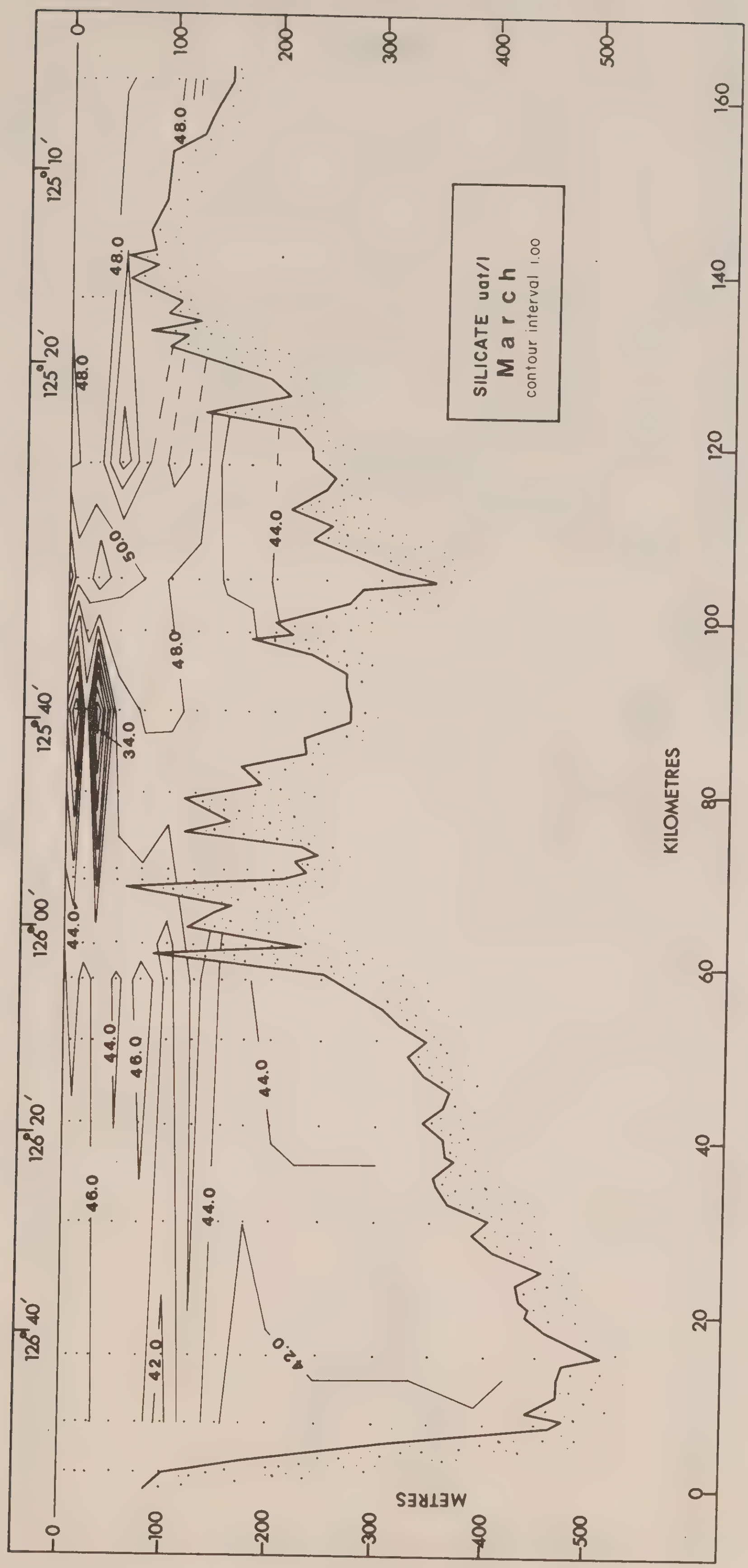

SALINITY ‰
March
contour interval 0.10
KILOMETRES
METRES
0
20
40
60
80
100
120
140
160
100
200
300
400
500
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
29.60
29.70
29.60
29.90
30.20
30.20
30.30
30.40
30.50
30.60
30.70
30.80
30.90
31.00
31.10
31.20
30.40
30.20

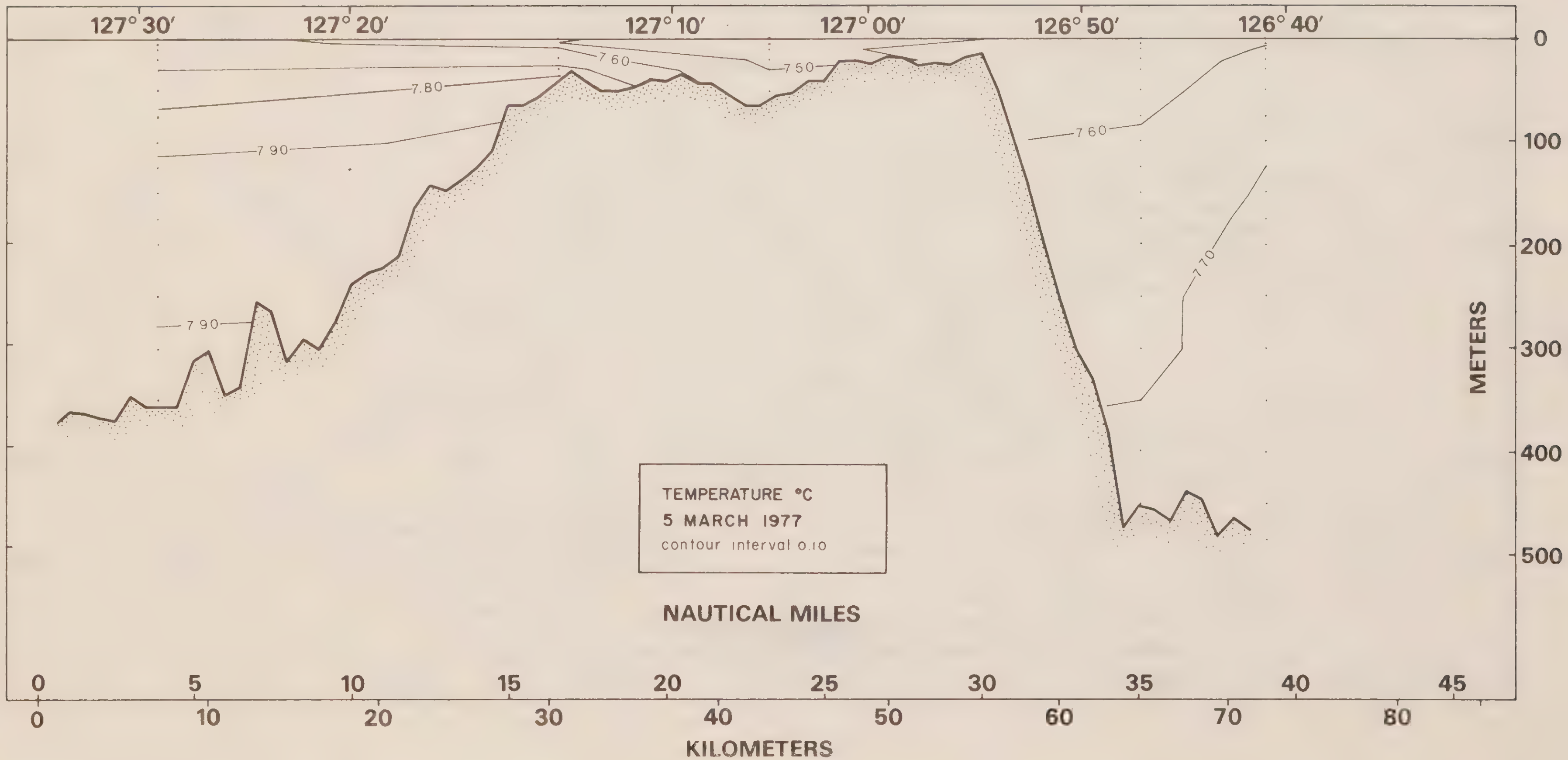

SIGMA-T
March
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
23.10
23.20
23.30
23.40
23.50
23.60
23.70
23.80
23.90
24.00
24.10
24.20
24.30
23.50
23.60
23.70

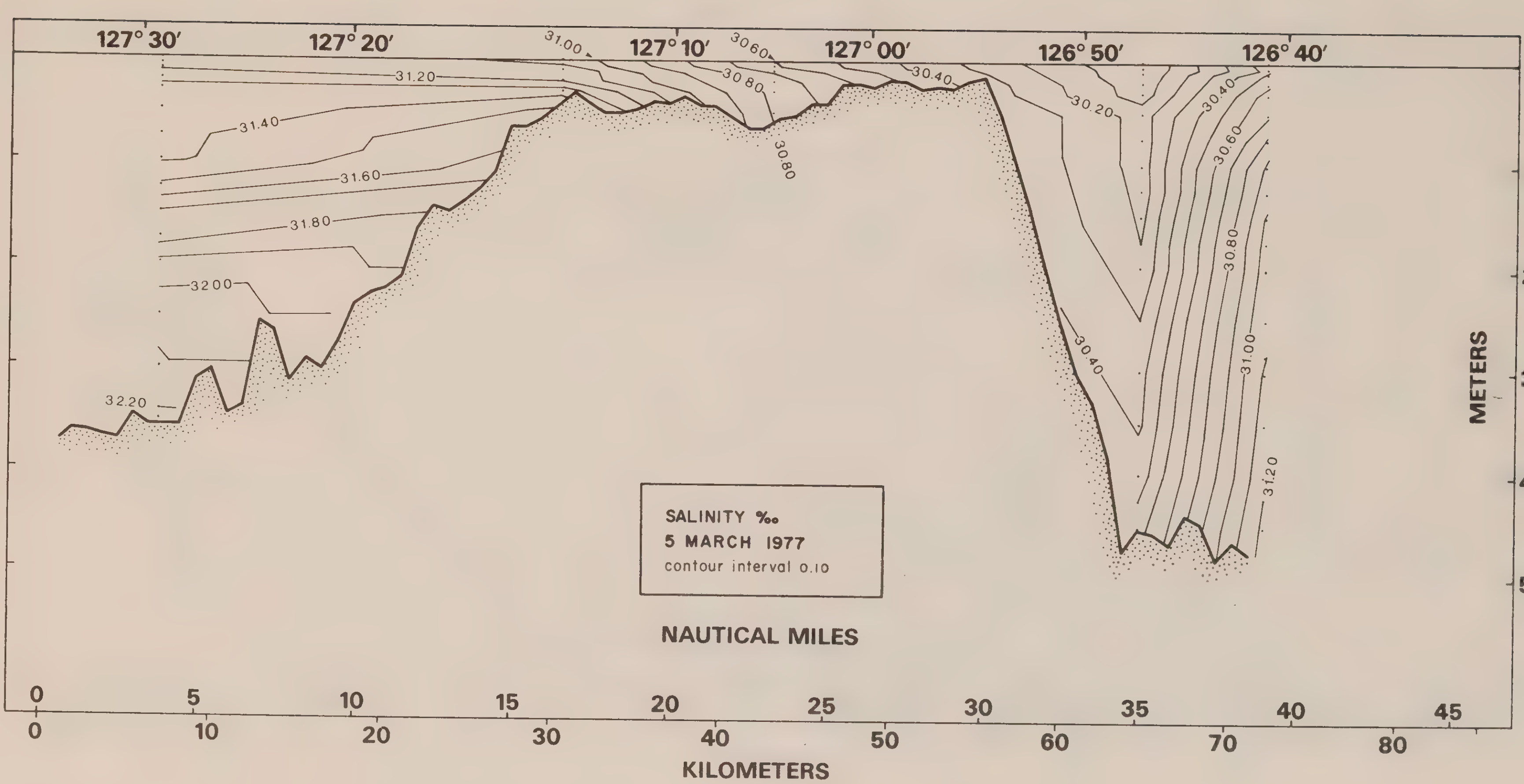

DISSOLVED OXYGEN ml/l
March
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
6.30
6.20
6.10
6.00
5.90
5.80
5.70
5.60
5.50


NITRATE uat/l
March
contour interval 1.00
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′

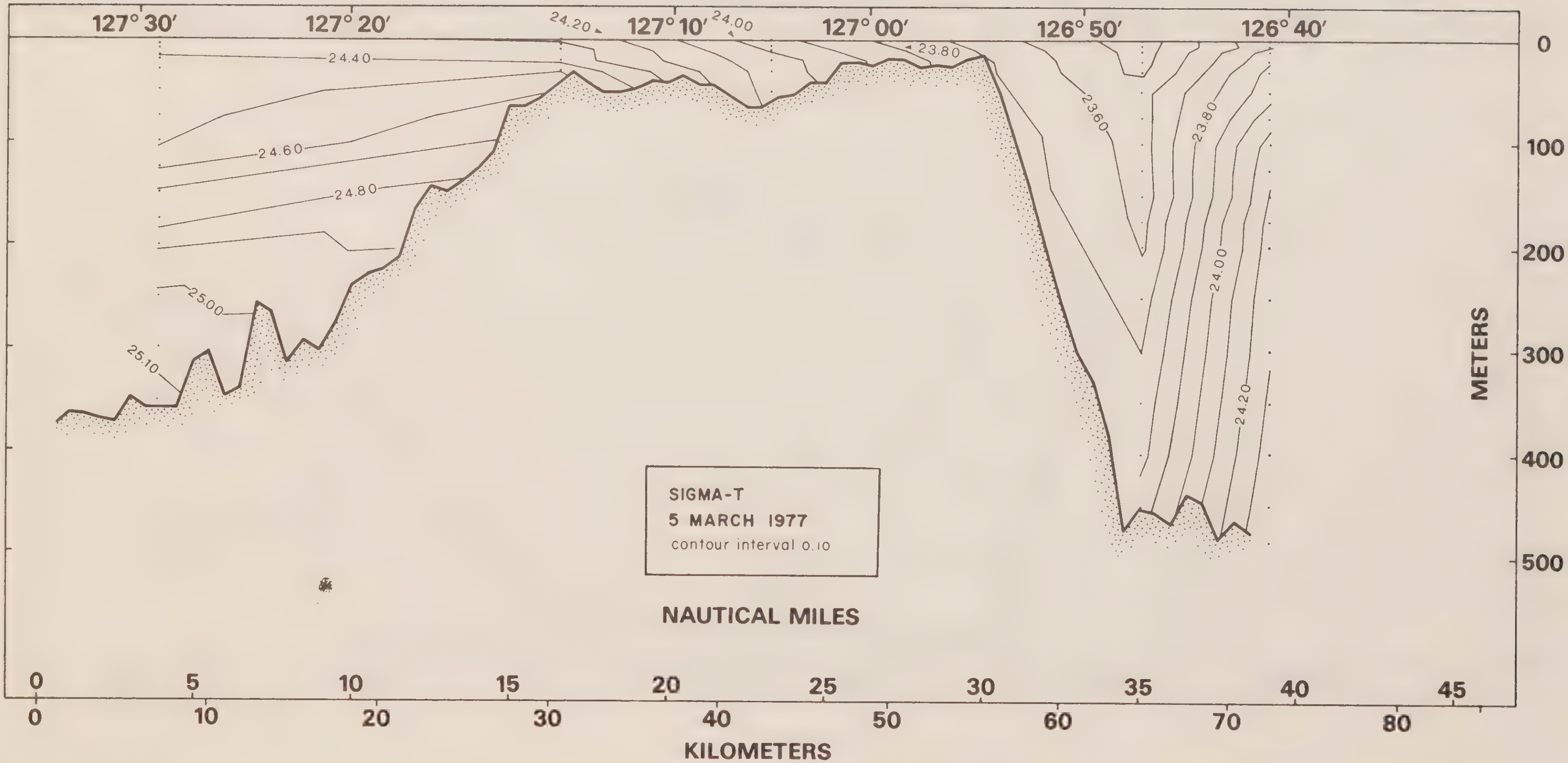

PHOSPHATE uat/l
March
contour interval 0.10
KILOMETRES
METRES
126° 40′
126° 20′
126° 00′
125° 40′
125° 20′
125° 10′
2.00
1.90
2.20
2.40
2.50
2.70

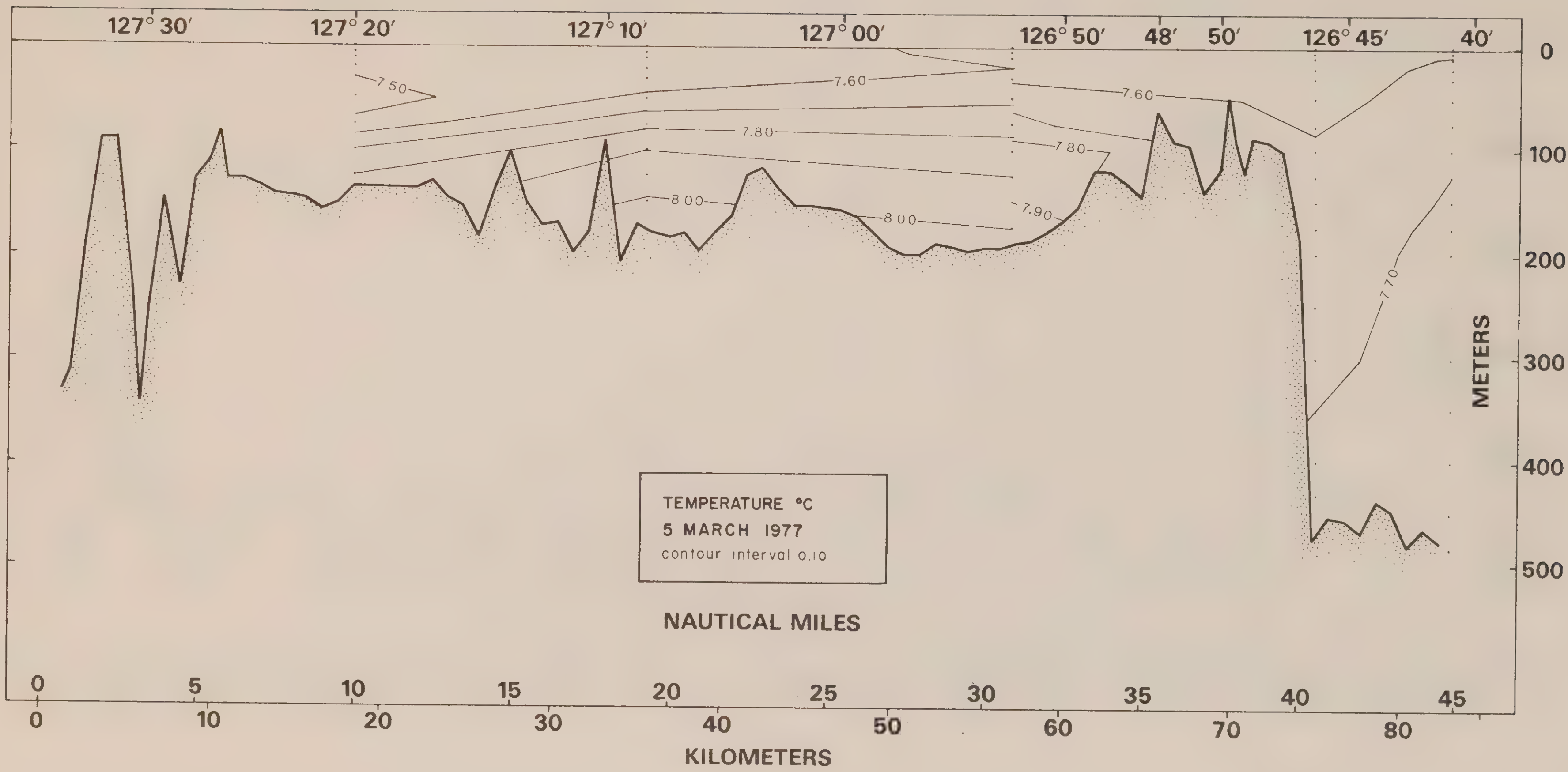

SILICATE uat/l
March
contour interval 1.00
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
42.0
44.0
46.0
48.0
50.0
34.0

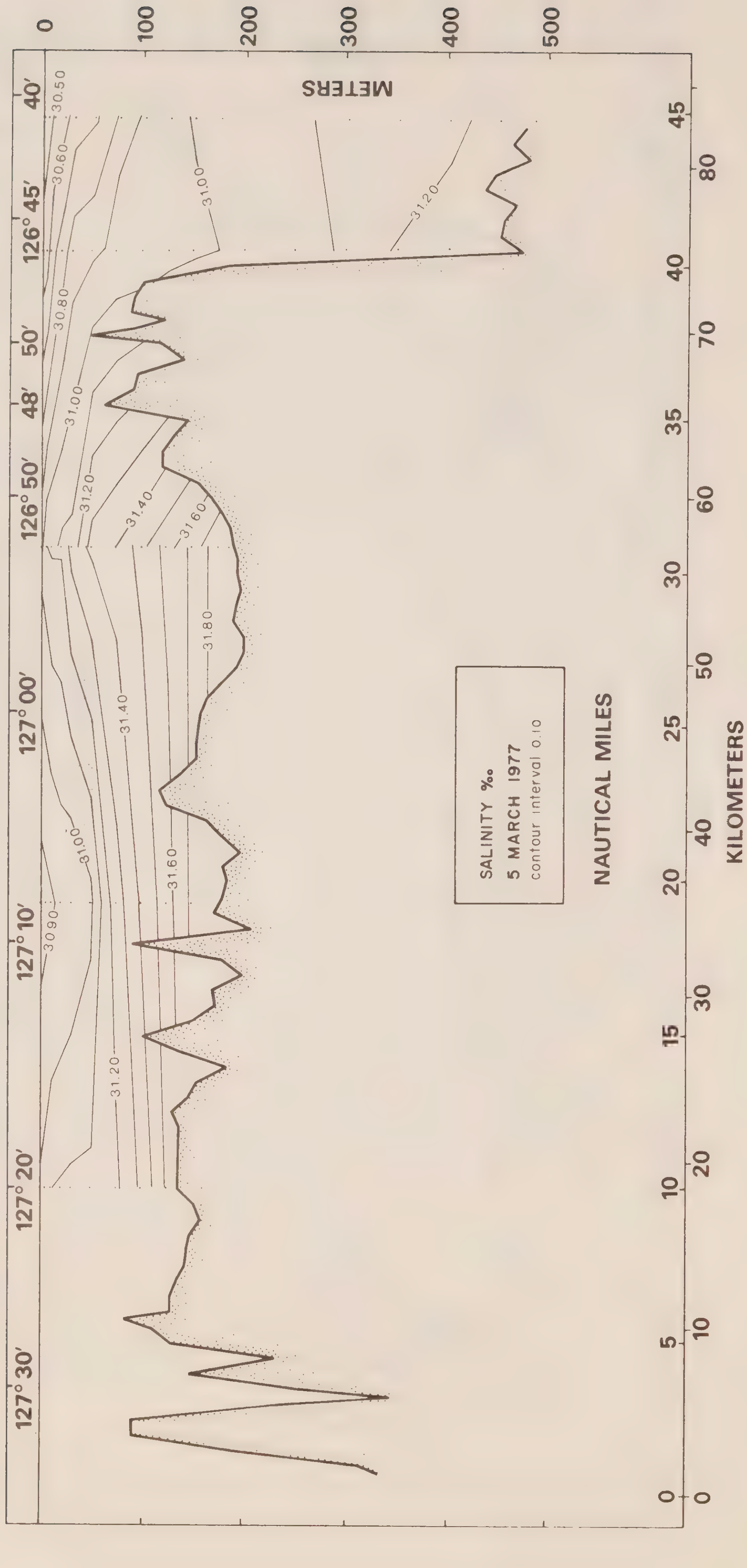

127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
7.60
7.50
7.80
7.90
7.90
7.60
7.70
0
100
200
300
400
500
METERS
TEMPERATURE °C
5 MARCH 1977
contour interval 0.10
NAUTICAL MILES
0 5 10 15 20 25 30 35 40 45
0 10 20 30 40 50 60 70 80
KILOMETERS

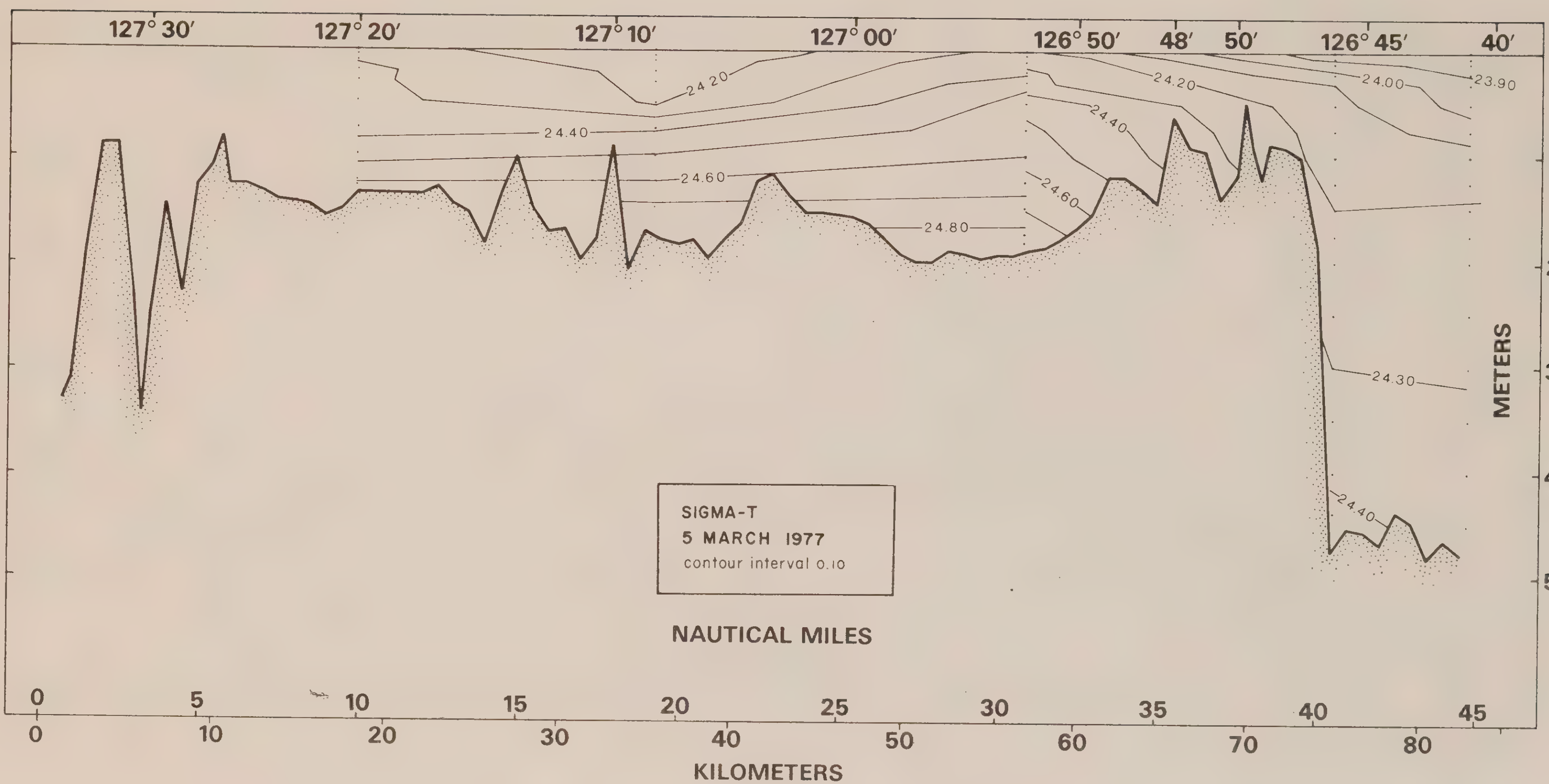


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
31.00
31.20
31.40
31.60
31.80
32.00
32.20
30.60
30.80
30.40
30.20
METERS
0
100
200
300
400
500
SALINITY ‰
5 MARCH 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
24.40
24.60
24.80
25.00
25.10
24.20
24.00
23.80
23.60
23.80
24.00
24.20
SIGMA-T
5 MARCH 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS
METERS
0
100
200
300
400
500


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
7.50
7.60
7.60
7.80
7.80
7.90
8.00
8.00
7.70
0
100
200
300
400
500
METERS
TEMPERATURE °C
5 MARCH 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

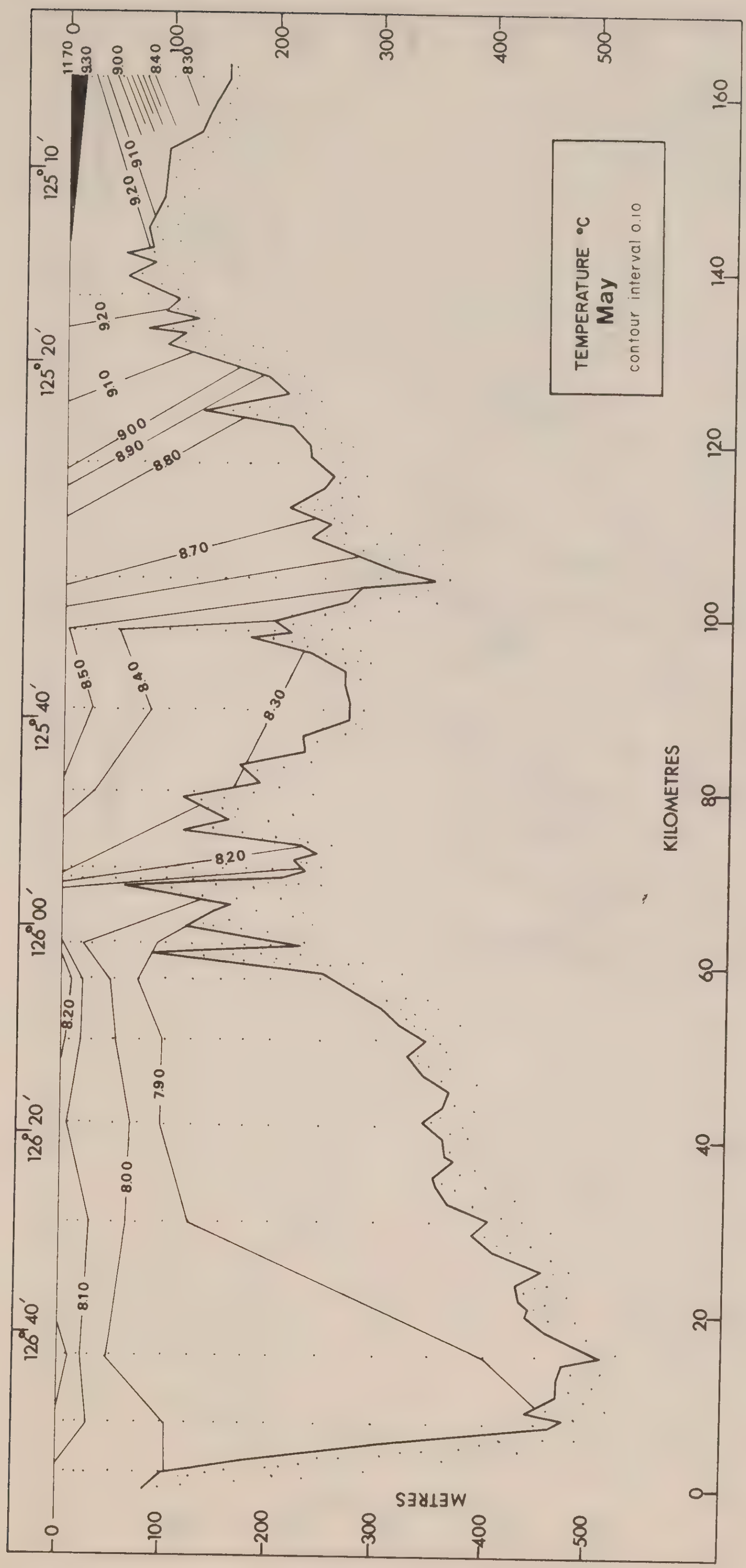

SALINITY ‰
5 MARCH 1977
contour interval 0.10
NAUTICAL MILES
KILOMETERS
METERS


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
0
100
200
300
400
500
METERS
23.90
24.00
24.20
24.40
24.60
24.80
24.30
SIGMA-T
5 MARCH 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

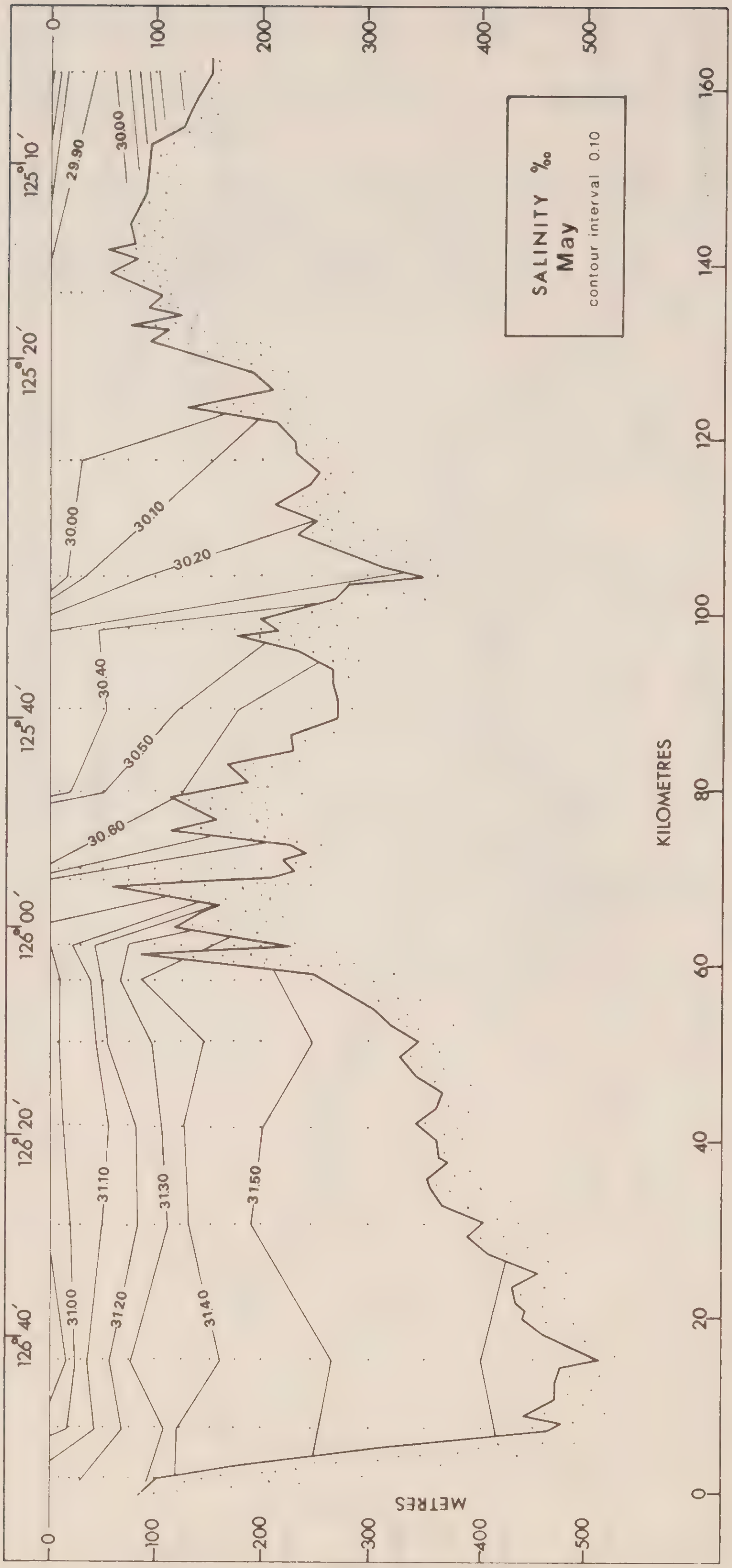
3.5 Cruise 77-12 (May 1977)

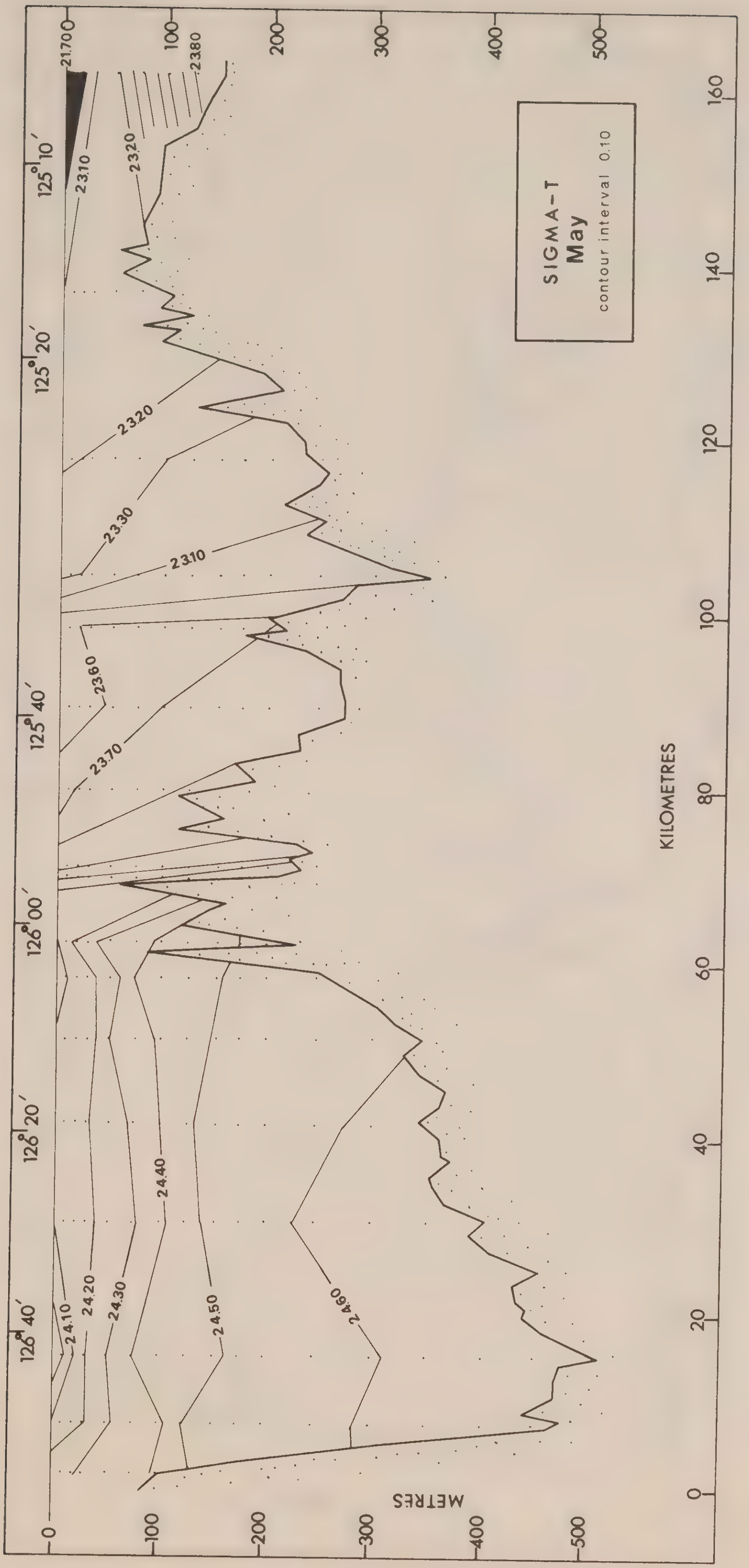
Mid-channel sections of temperature, salinity, sigma-t, dissolved oxygen, nitrate, phosphate and silicate.

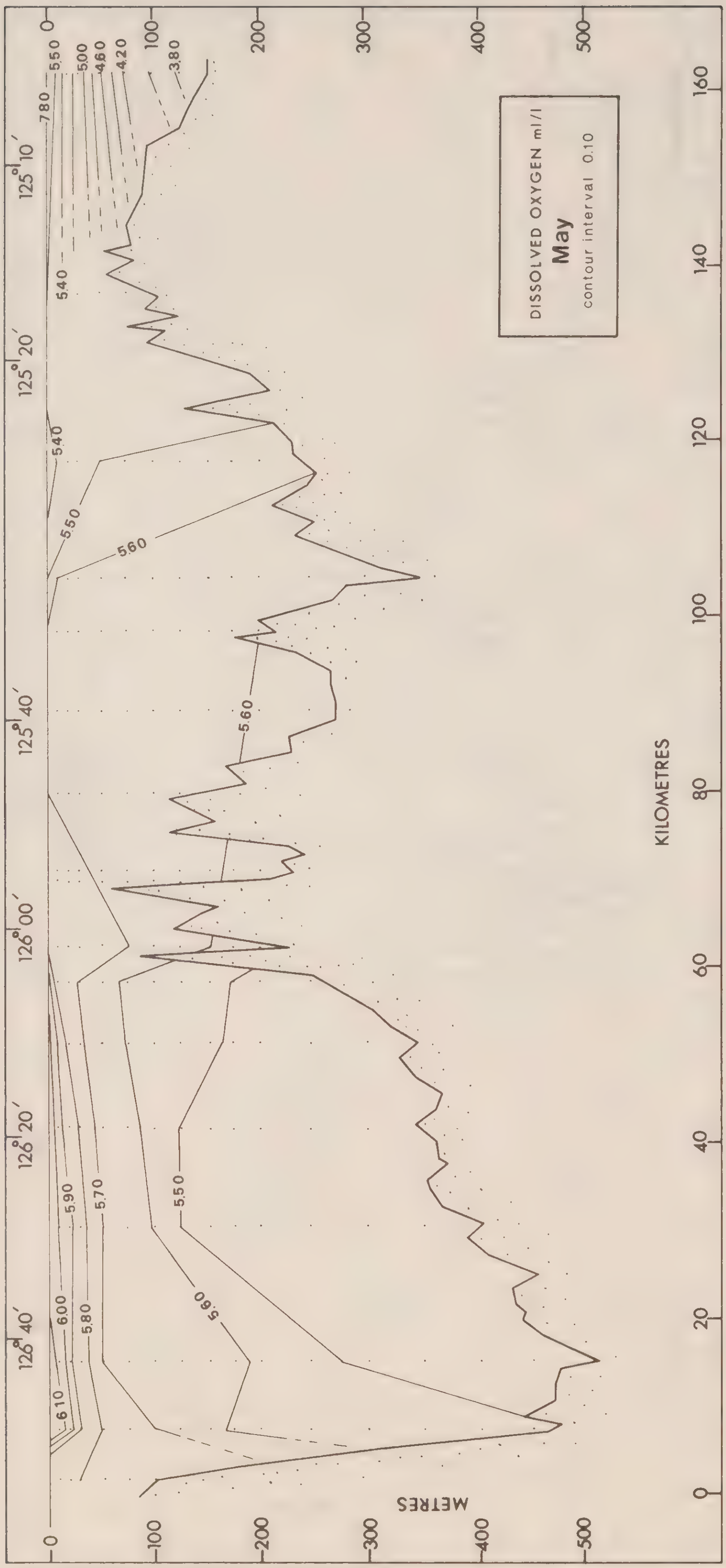
Sections are presented in the following sequence: outbound transect of Johnstone Strait - Discovery Passage; Goletas Channel - Broughton Strait transect of Queen Charlotte Strait; and Gordon Channel - Broughton Strait transect of Queen Charlotte Strait. Due to few data nutrients are not available for Queen Charlotte Strait (See Appendix E).

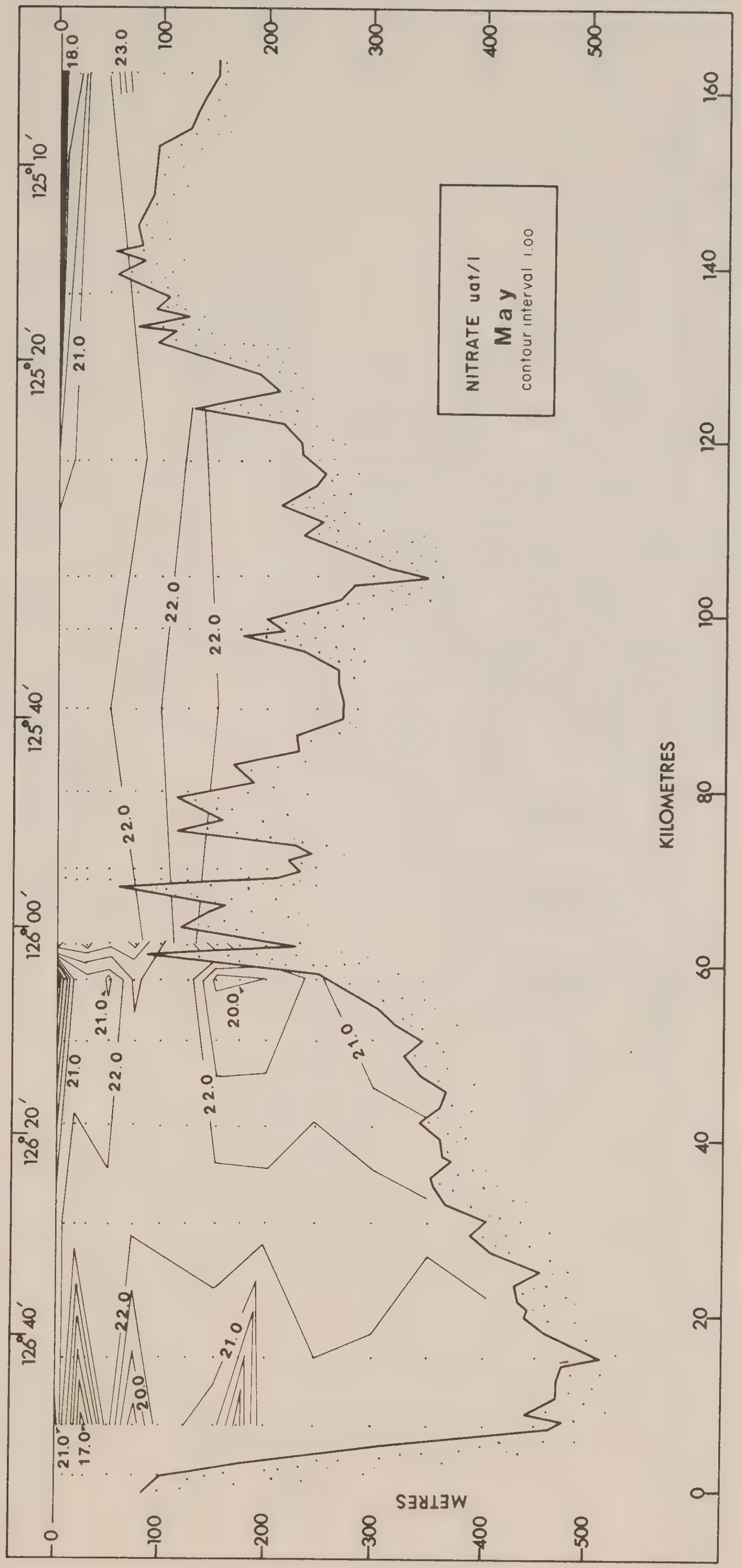


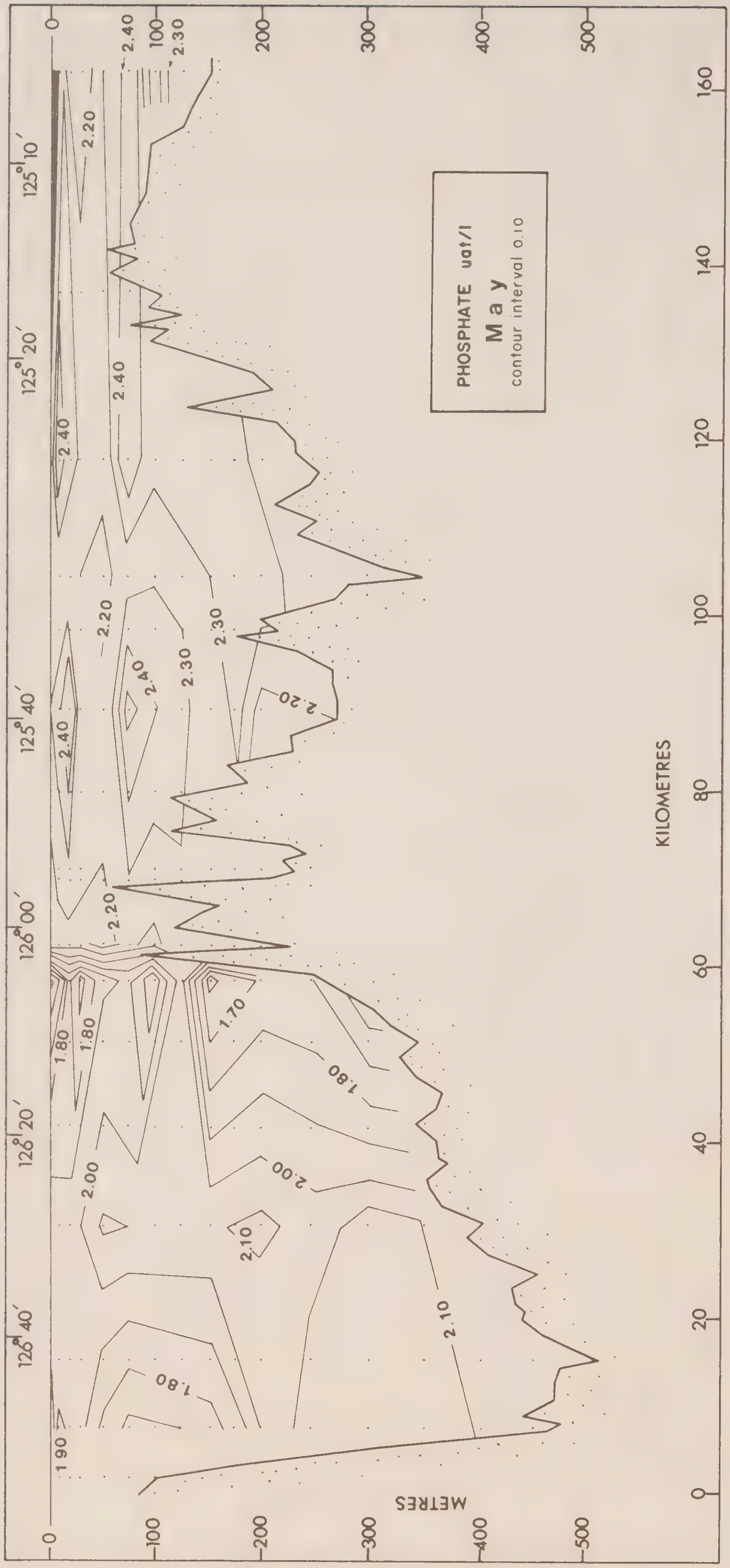
TEMPERATURE °C
May
contour interval 0.10
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
11.70
9.30
9.00
8.40
8.30
9.20
9.10
8.90
8.80
8.70
8.50
8.20
8.10
8.00
7.90

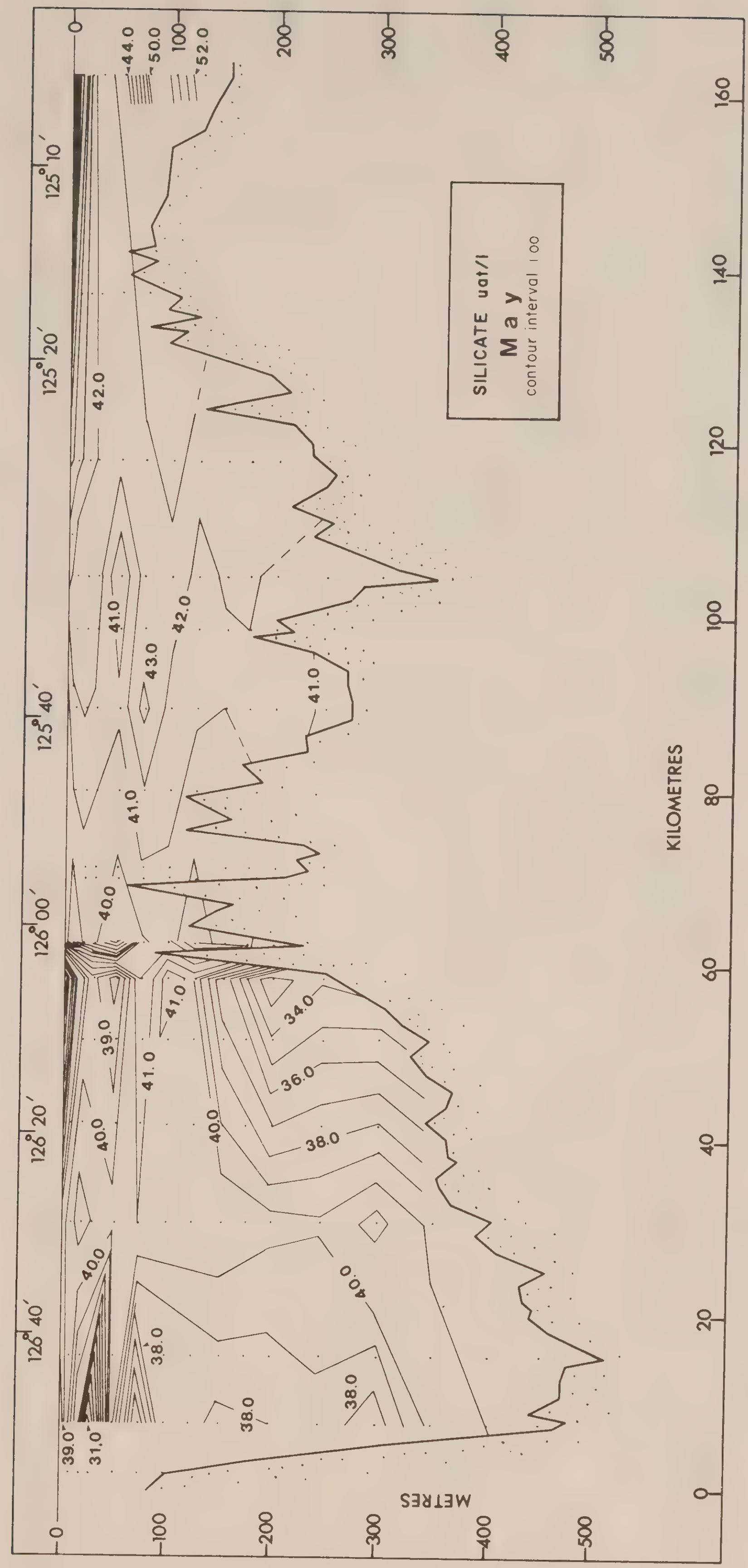

SALINITY ‰
May
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
29.90
30.00
30.10
30.20
30.40
30.50
30.60
31.00
31.10
31.20
31.30
31.40
31.50
0
20
40
60
80
100
120
140
160
0
100
200
300
400
500


SIGMA-T
May
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
0
20
40
60
80
100
120
140
160
100
200
300
400
500
21.700
23.10
23.20
23.30
23.60
23.70
23.80
24.10
24.20
24.30
24.40
24.50
24.60

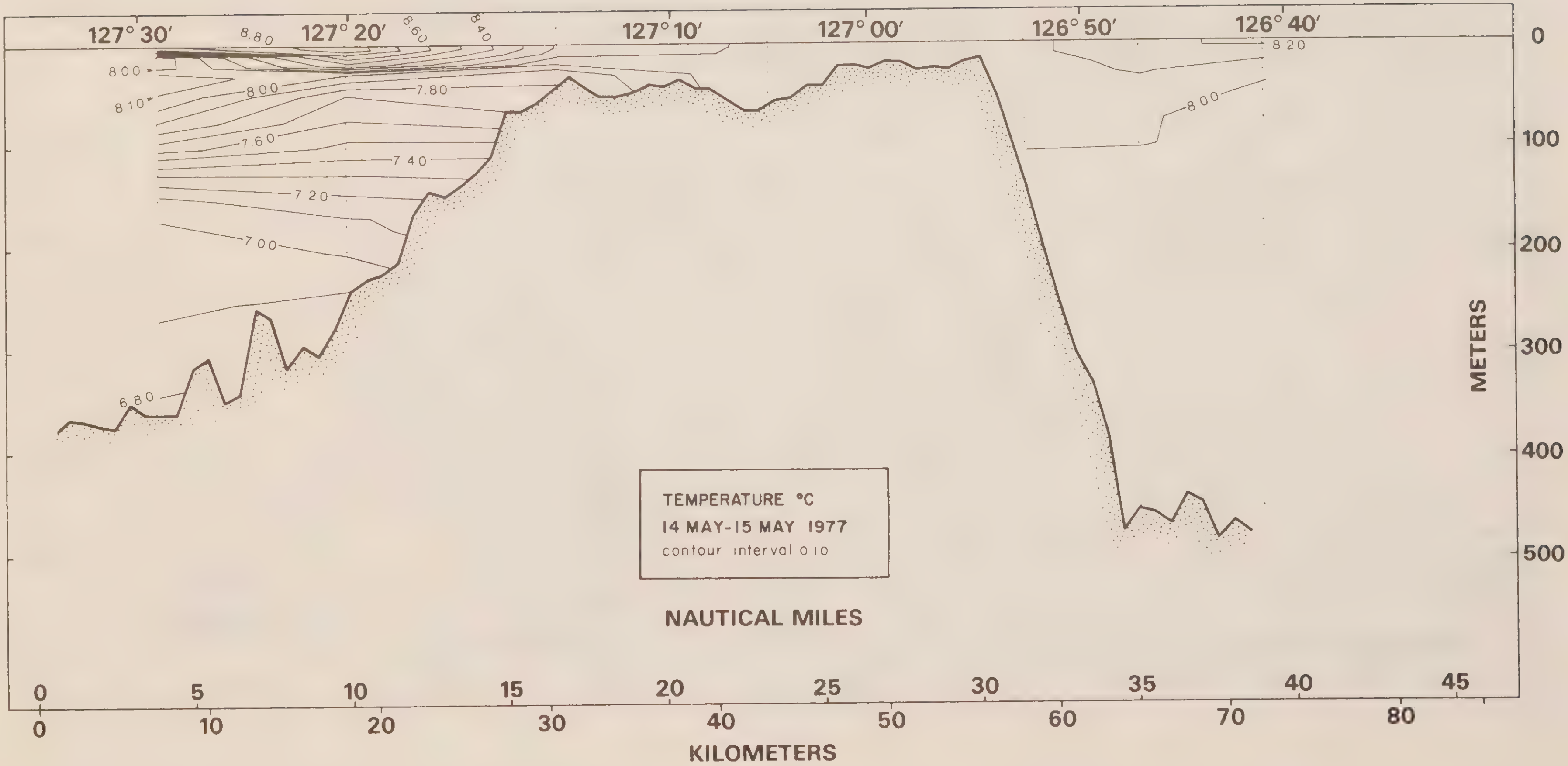

DISSOLVED OXYGEN ml/l
May
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′

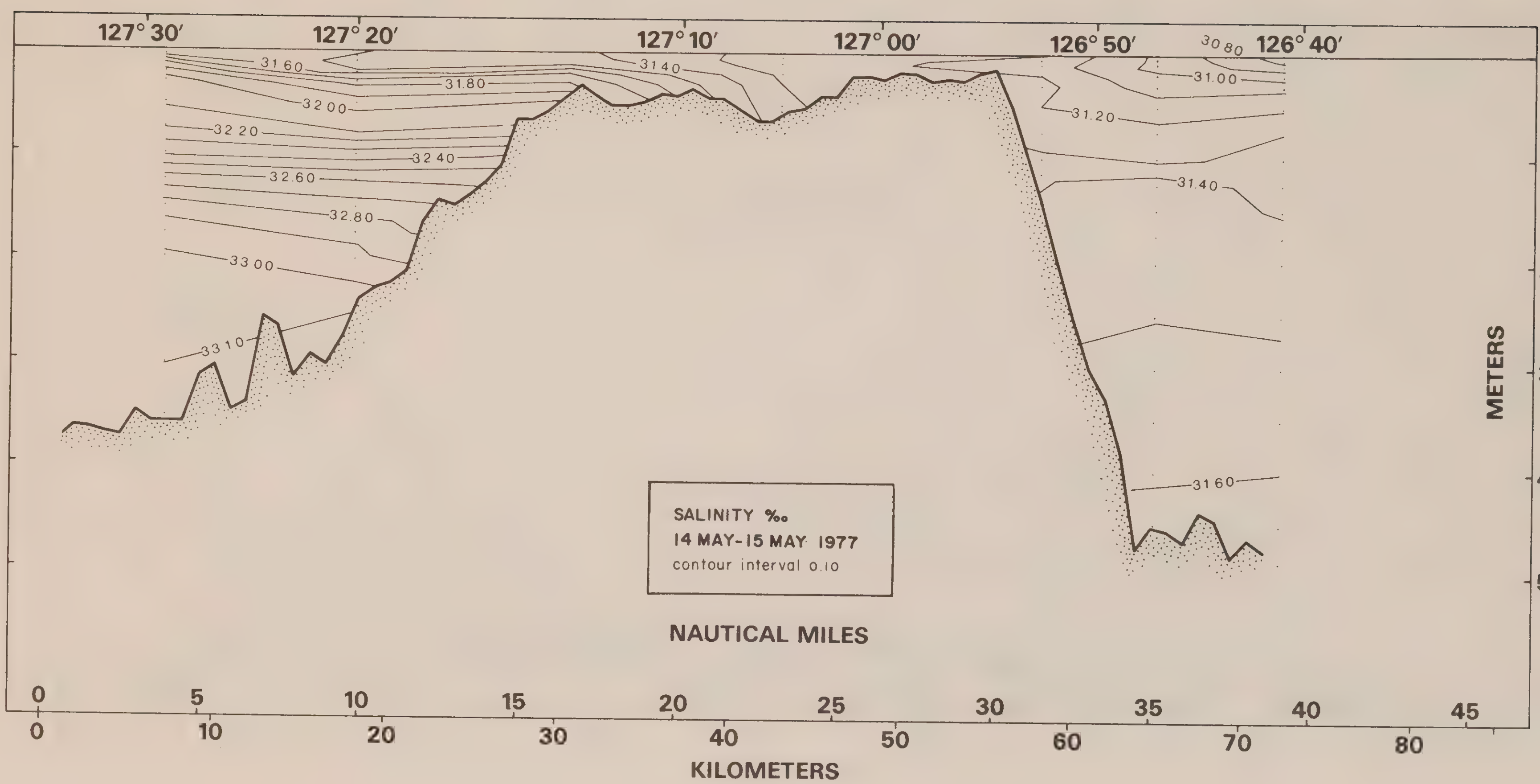

NITRATE uat/l
May
contour interval 1.00
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160
18.0
23.0
21.0
22.0
20.0
17.0

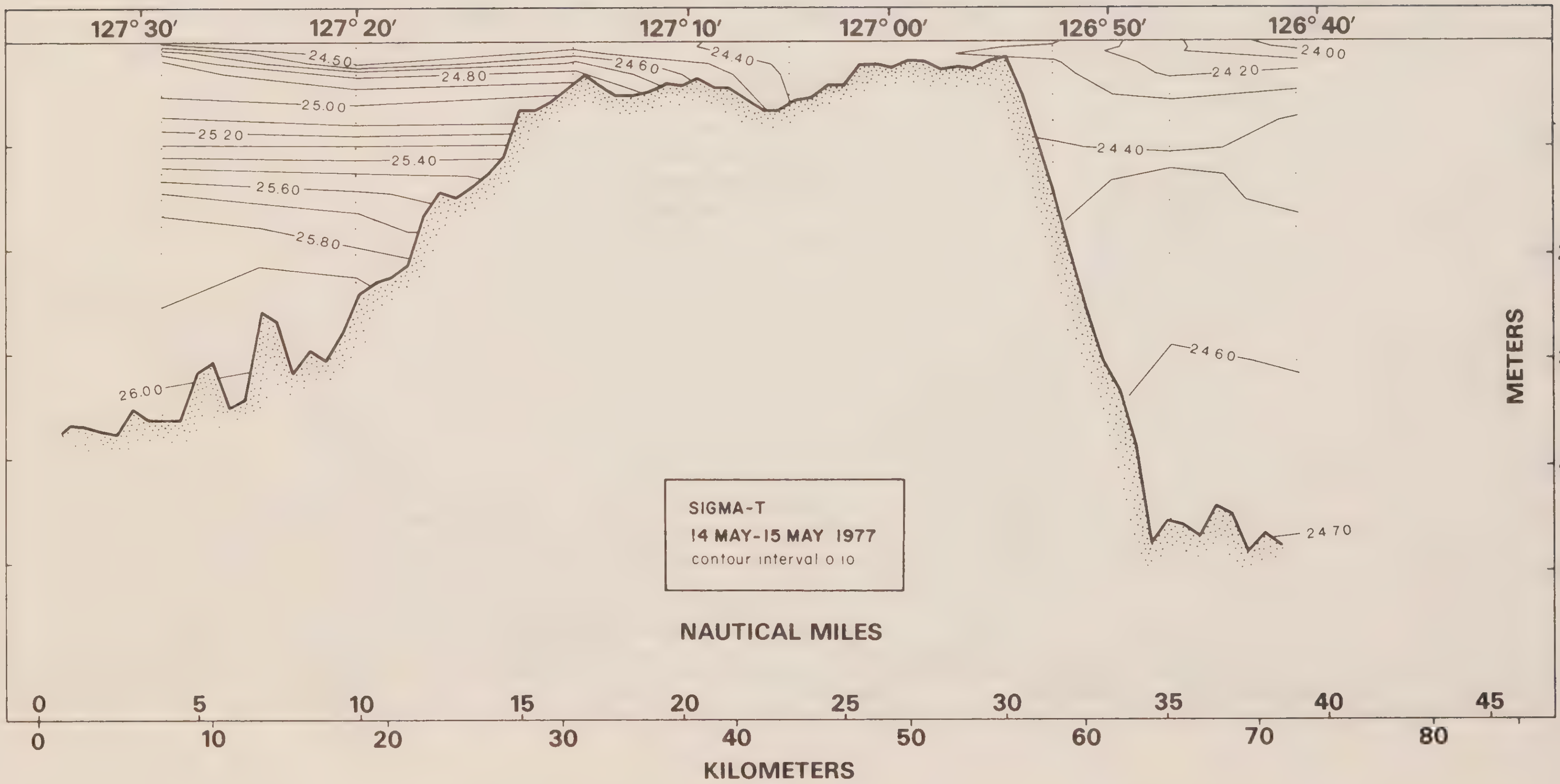

PHOSPHATE uat/l
May
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160
1.90
1.80
2.10
2.00
1.70
2.20
2.30
2.40



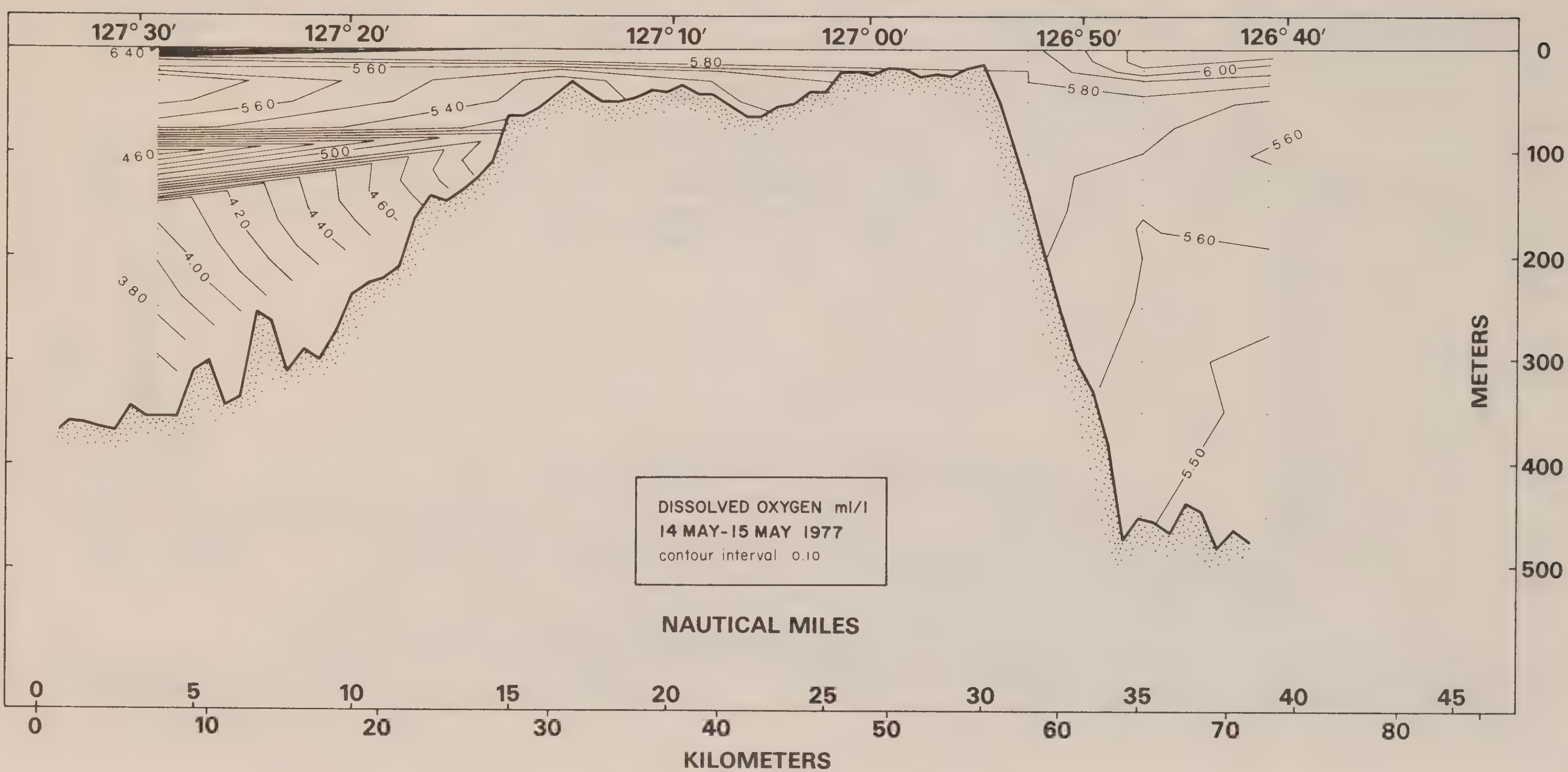
SILICATE uat/l
May
contour interval 1.00
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′

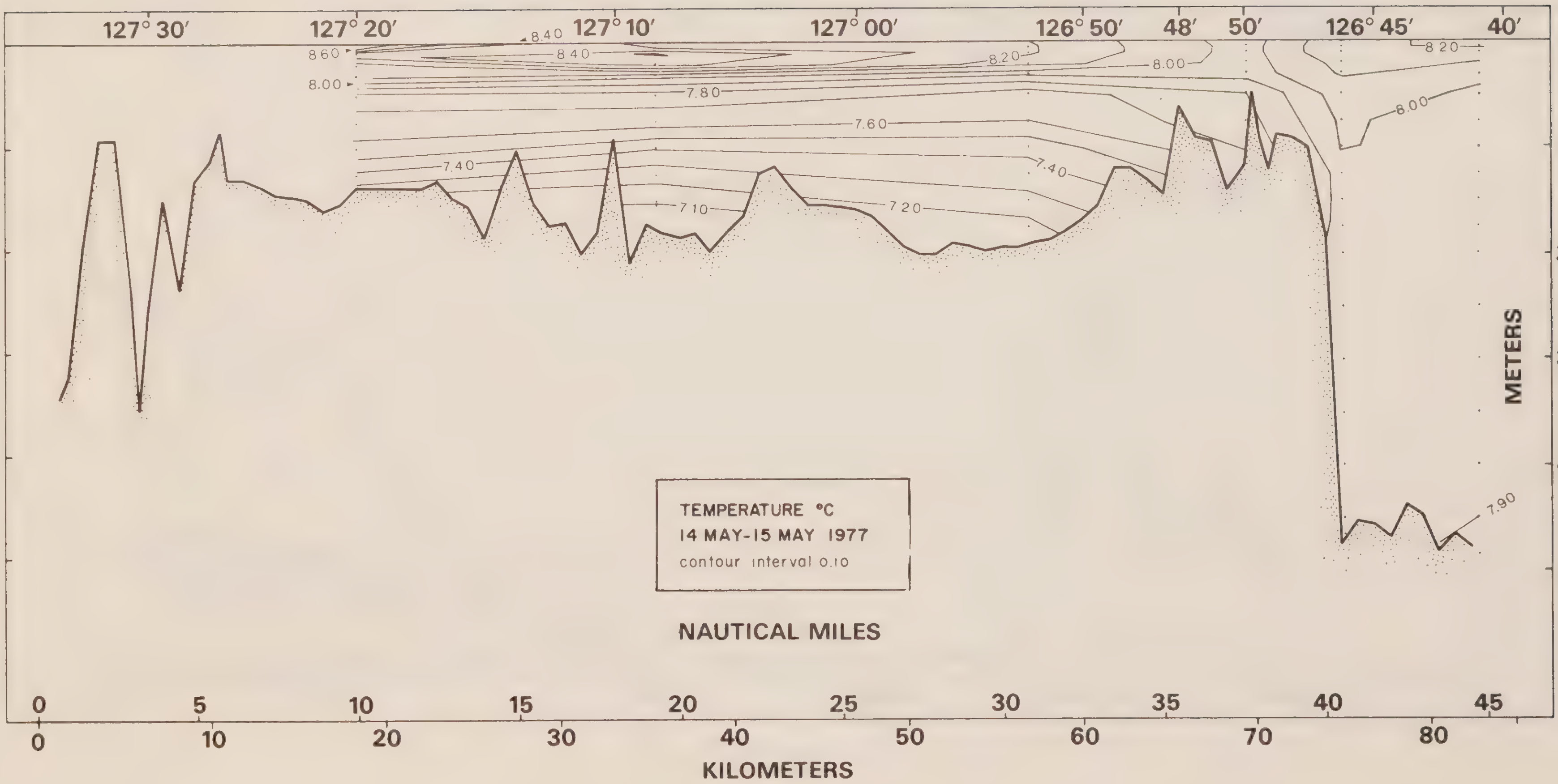

127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
8.80
8.60
8.40
8.20
8.00
8.10
7.80
7.60
7.40
7.20
7.00
6.80
TEMPERATURE °C
14 MAY-15 MAY 1977
contour interval 0.10
NAUTICAL MILES
KILOMETERS
METERS


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
31.60
31.80
32.00
32.20
32.40
32.60
32.80
33.00
33.10
31.40
30.80
31.00
31.20
31.40
31.60
0
100
200
300
400
500
METERS
SALINITY ‰
14 MAY-15 MAY 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

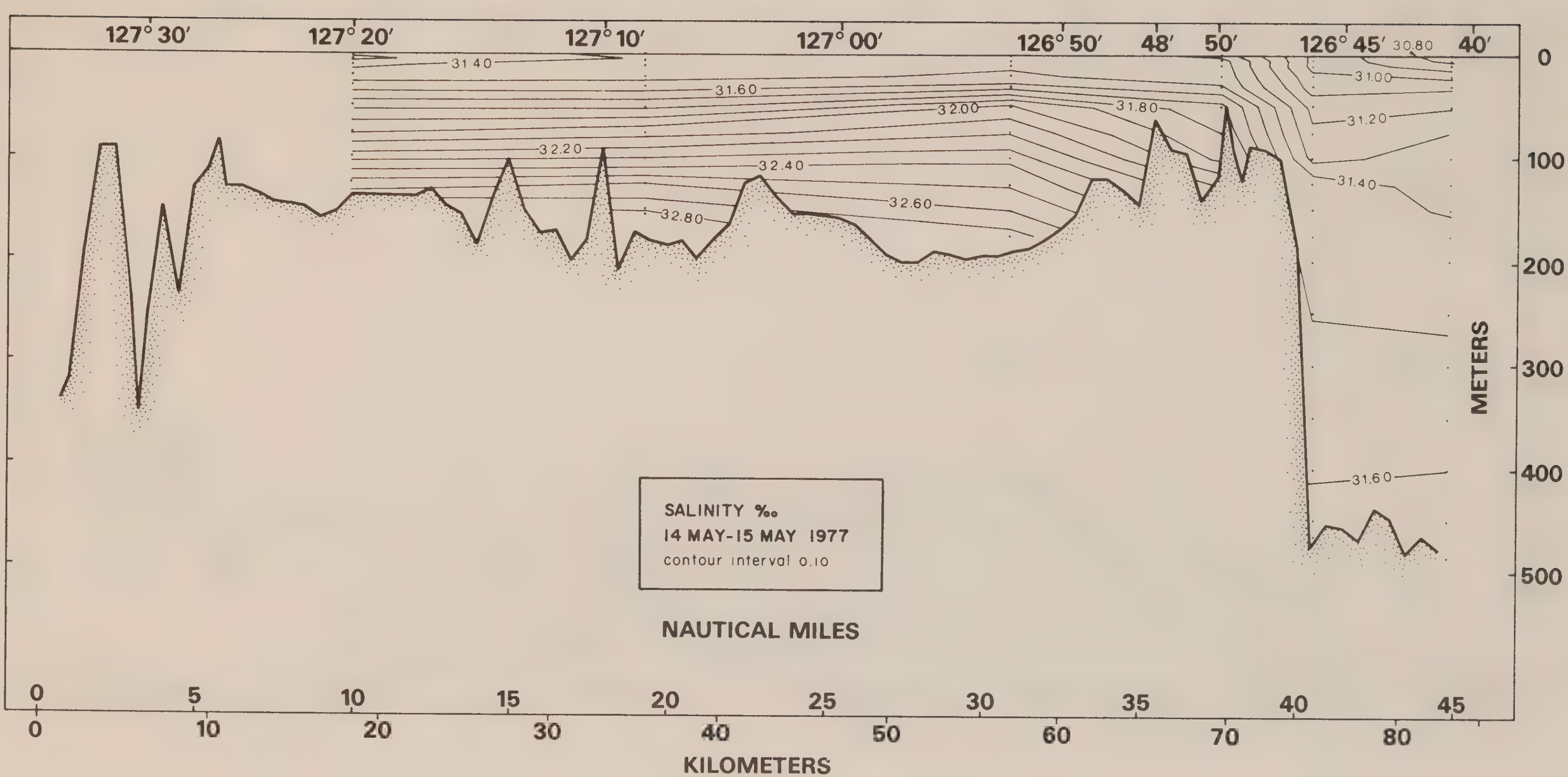


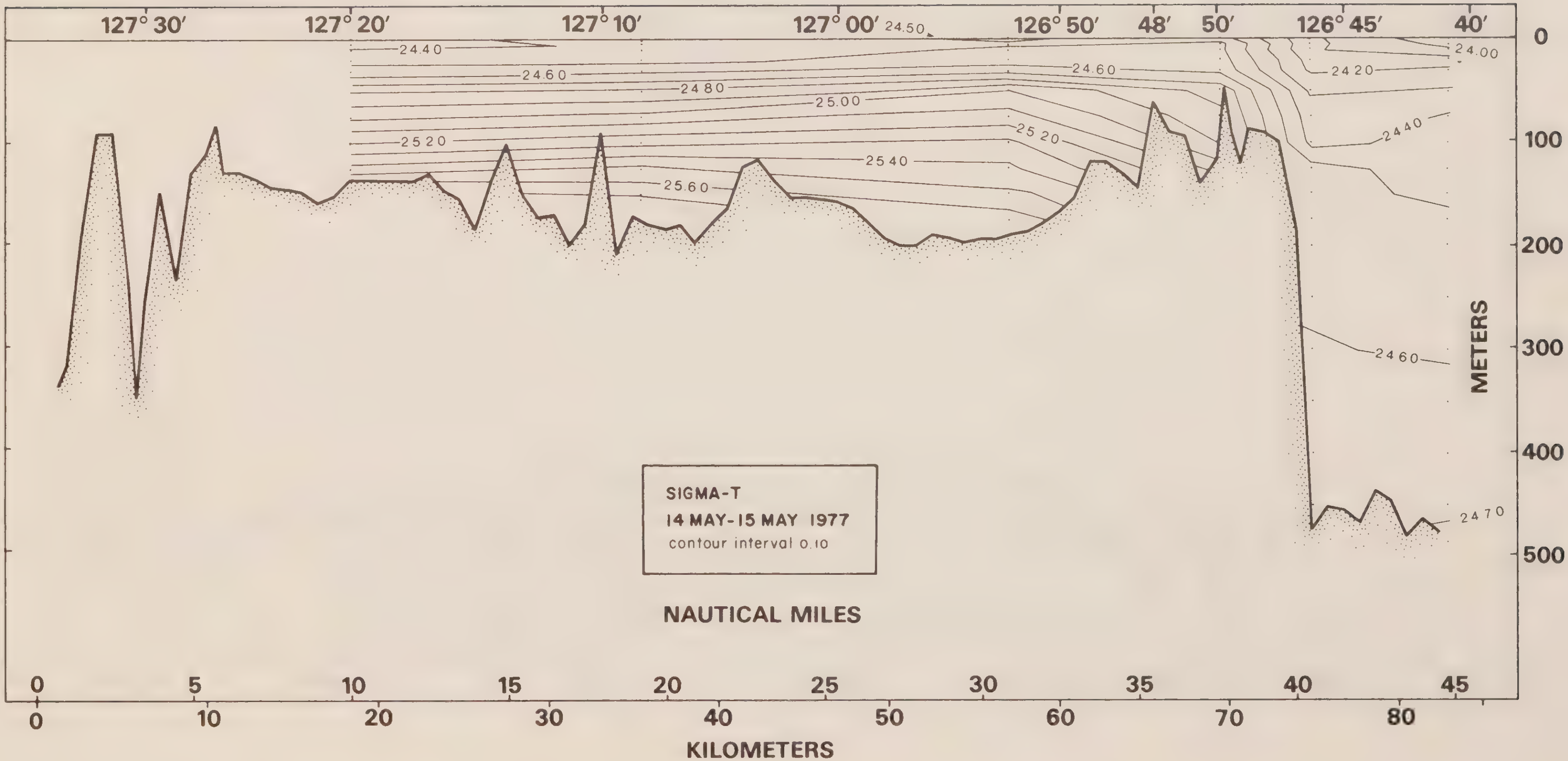
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
24.50
24.80
24.60
24.40
24.00
24.20
25.00
25.20
25.40
25.60
25.80
26.00
24.60
24.70
0
100
200
300
400
500
METERS
SIGMA-T
14 MAY-15 MAY 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
METERS
0
100
200
300
400
500
6 40
5 60
5 80
5 60
5 40
4 60
5 00
4 20
4 40
4 60
4 00
3 80
6 00
5 80
5 60
5 60
5 50
DISSOLVED OXYGEN ml/l
14 MAY-15 MAY 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

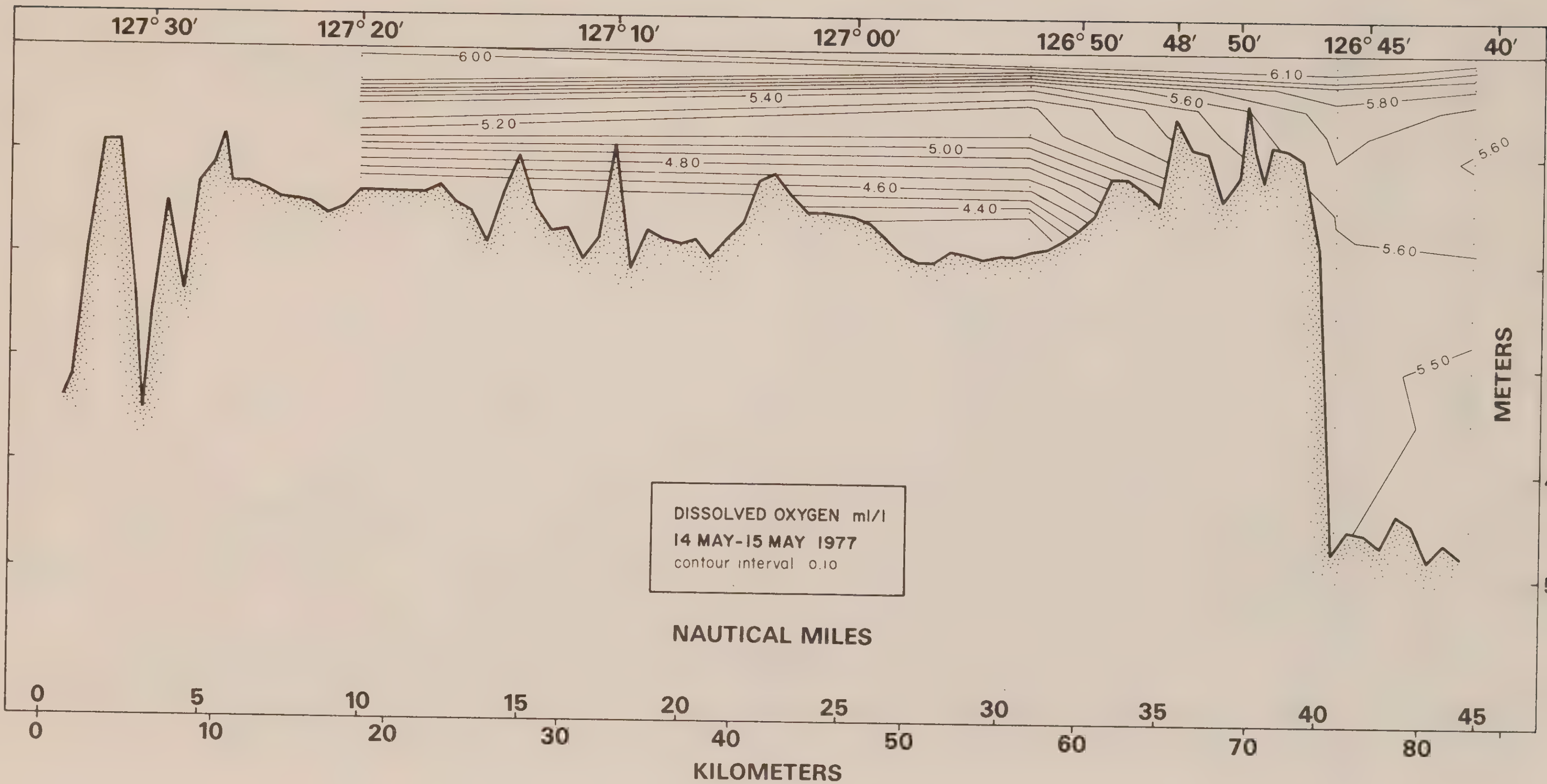


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
0
100
200
300
400
500
METERS
8.60
8.40
8.00
7.80
7.60
7.40
7.20
7.10
8.20
7.90
TEMPERATURE °C
14 MAY-15 MAY 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
30.80
31.00
31.20
31.40
31.60
31.80
32.00
32.20
32.40
32.60
32.80
0
100
200
300
400
500
METERS
SALINITY ‰
14 MAY-15 MAY 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS



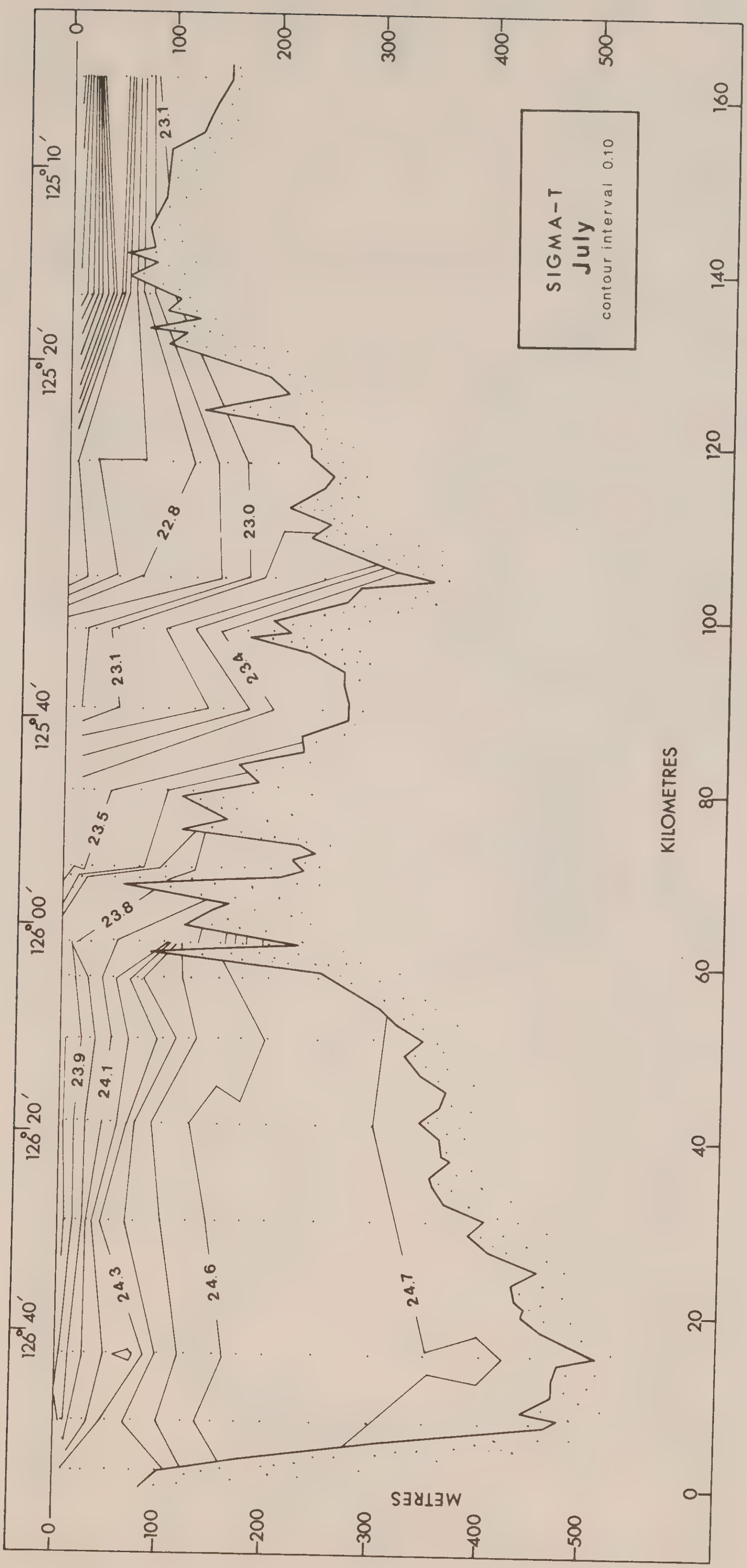
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
24.50
24.40
24.60
24.80
25.00
25.20
25.40
25.60
24.00
24.20
24.70
METERS
0
100
200
300
400
500
SIGMA-T
14 MAY-15 MAY 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

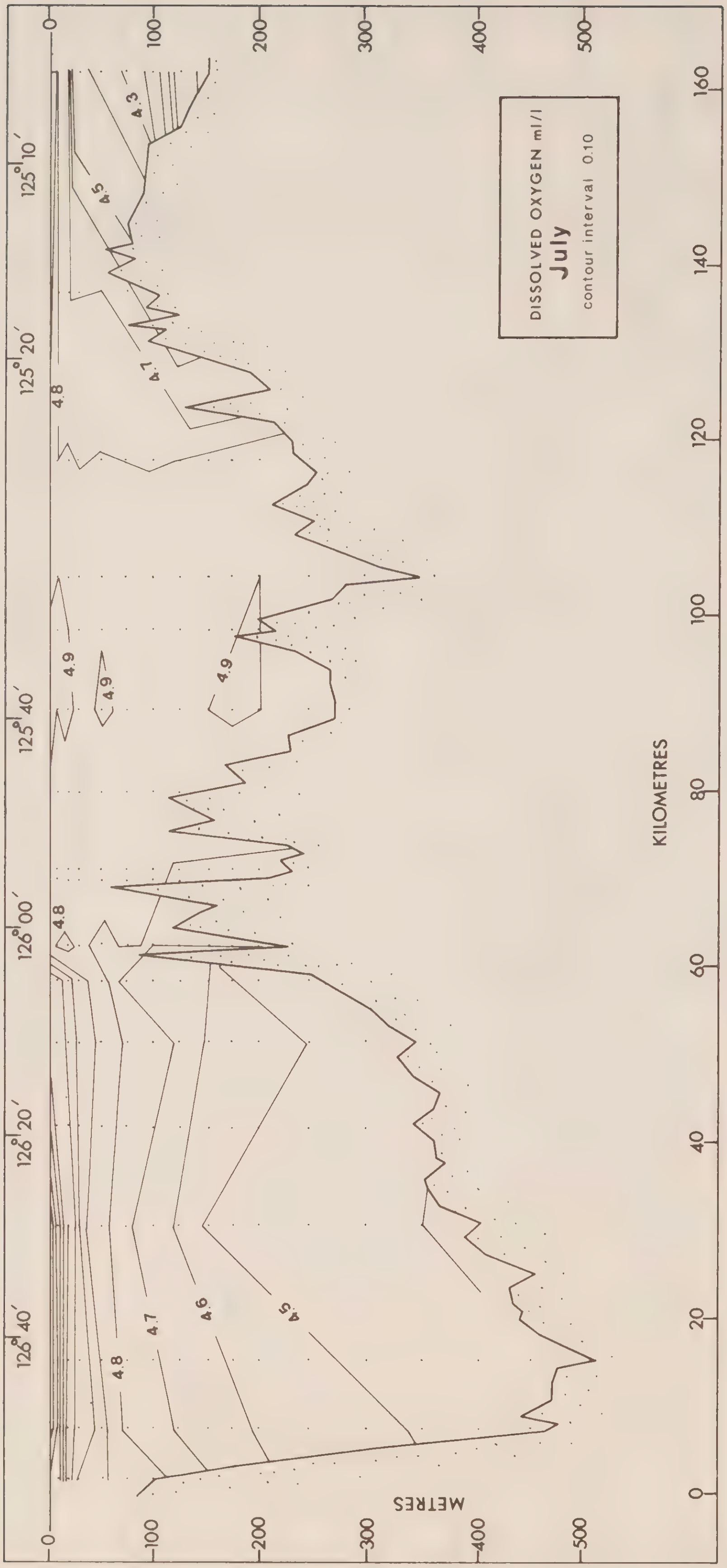

127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
6.00
5.40
5.20
4.80
5.00
4.60
4.40
6.10
5.60
5.80
5.60
5.60
5.50
0
100
200
300
400
500
METERS
DISSOLVED OXYGEN ml/l
14 MAY-15 MAY 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

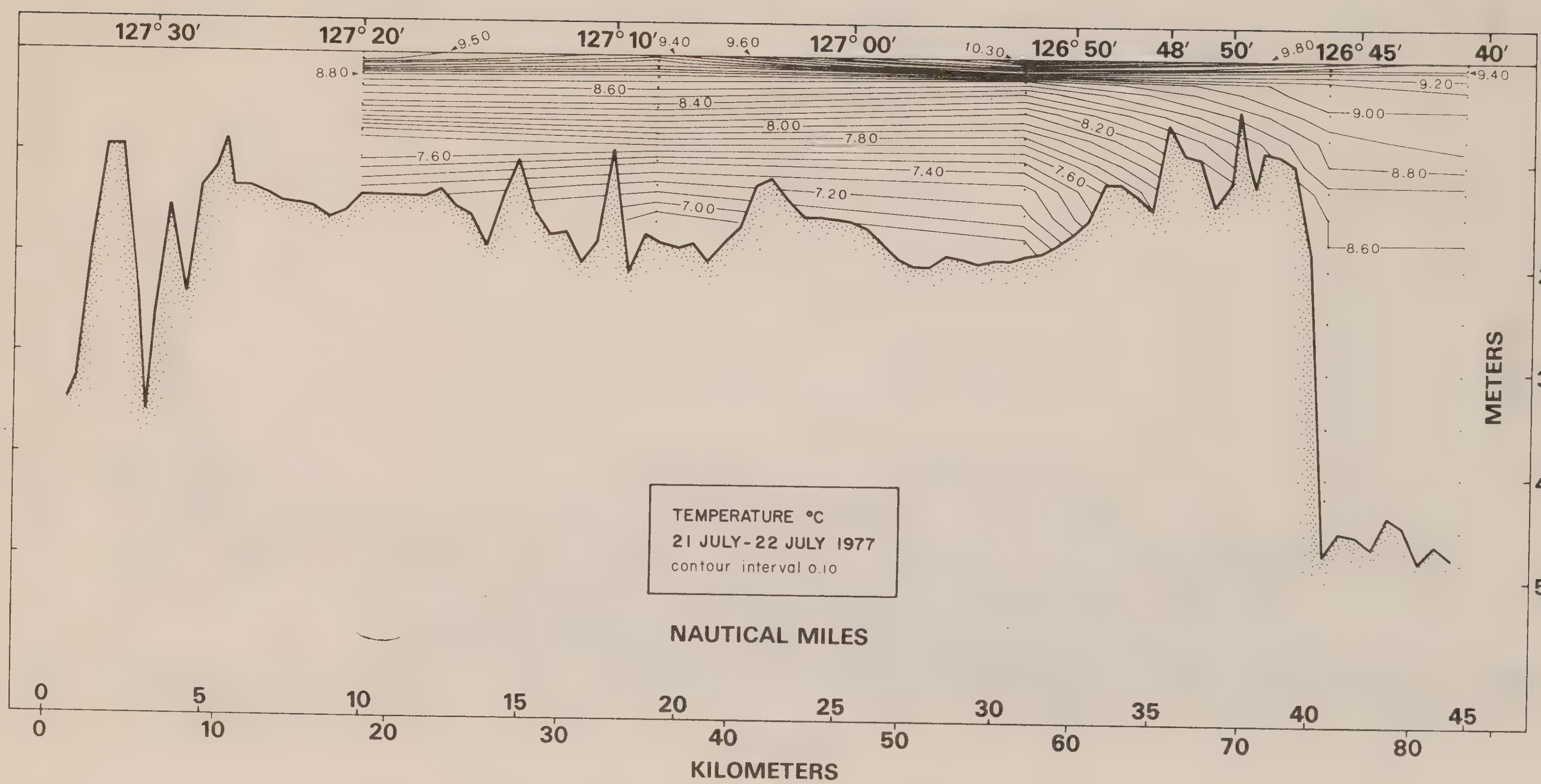
## 3.6 Cruise 77-13 (July 1977)

Mid-channel sections of temperature, salinity, sigma-t and dissolved oxygen.

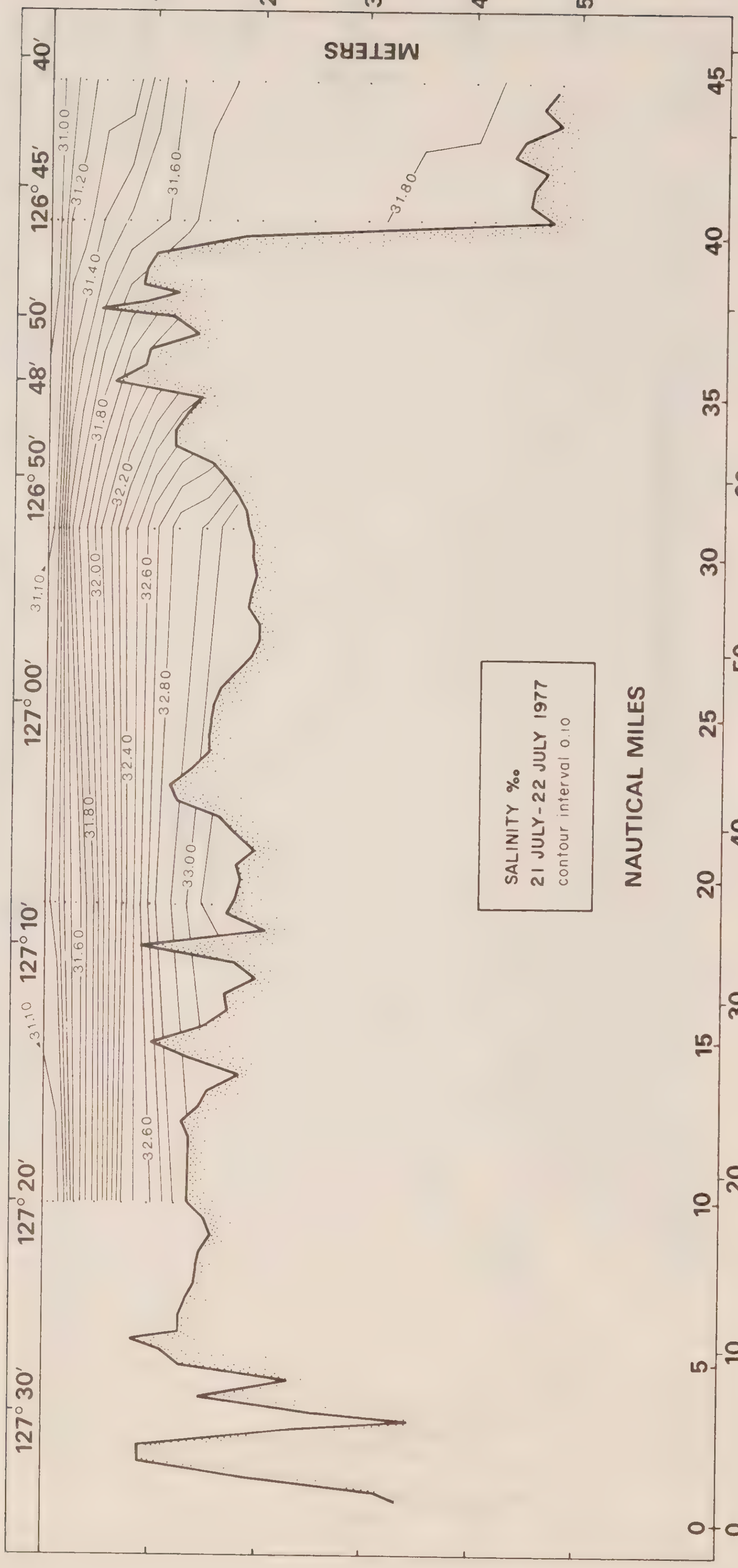
Plots are presented in the following sequence: inbound Johnstone Strait - Discovery Passage; and Gordon Channel - Broughton Strait transect Queen Charlotte Strait. No nutrient data were collected.

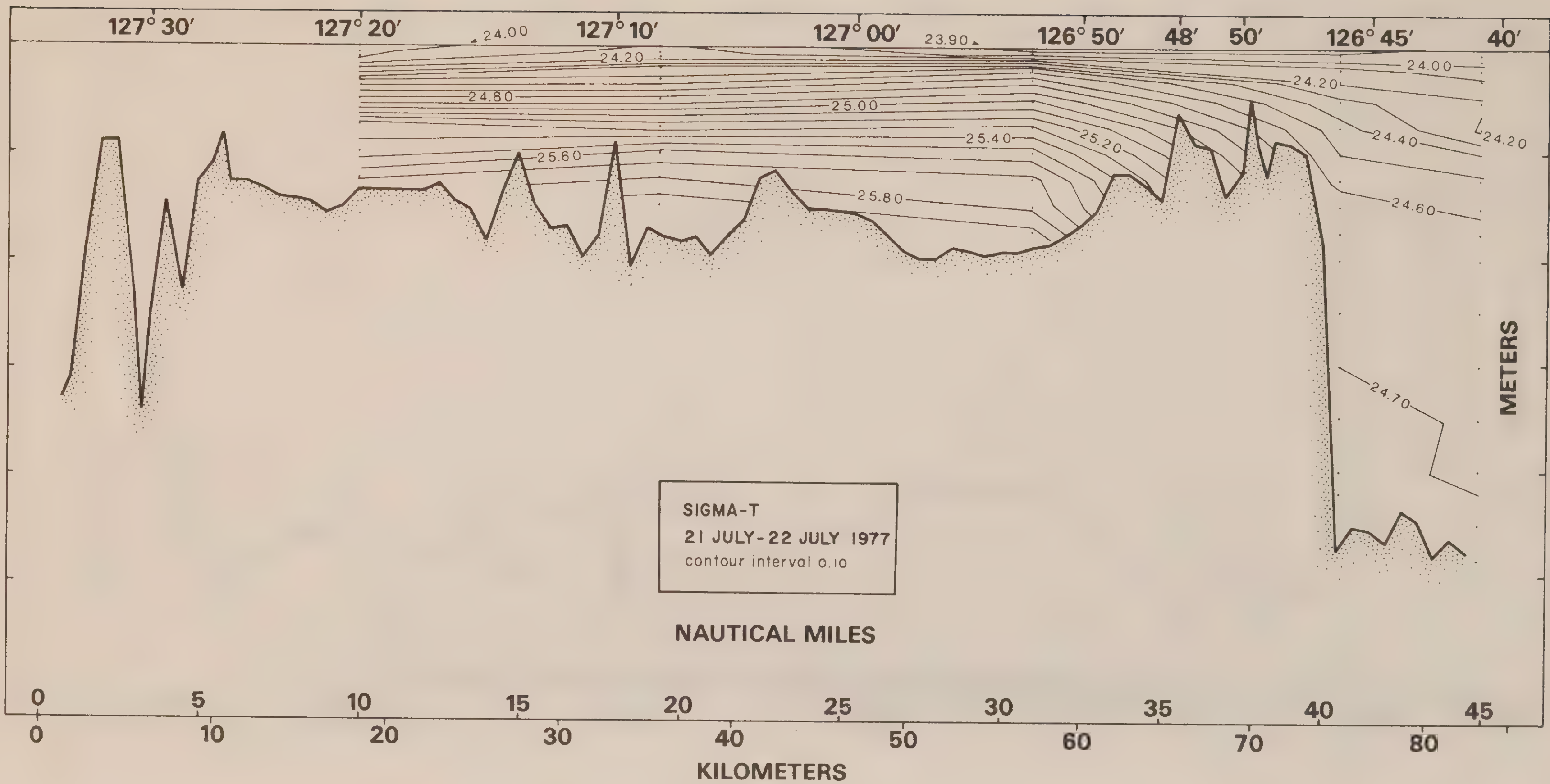

SIGMA-T
July
contour interval 0.10
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
0
100
200
300
400
500
20
40
60
80
100
120
140
160
23.1
22.8
23.0
23.4
23.5
23.8
23.9
24.1
24.3
24.6
24.7


DISSOLVED OXYGEN ml/l
July
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
4.8
4.7
4.6
4.5
4.9
4.1
4.3

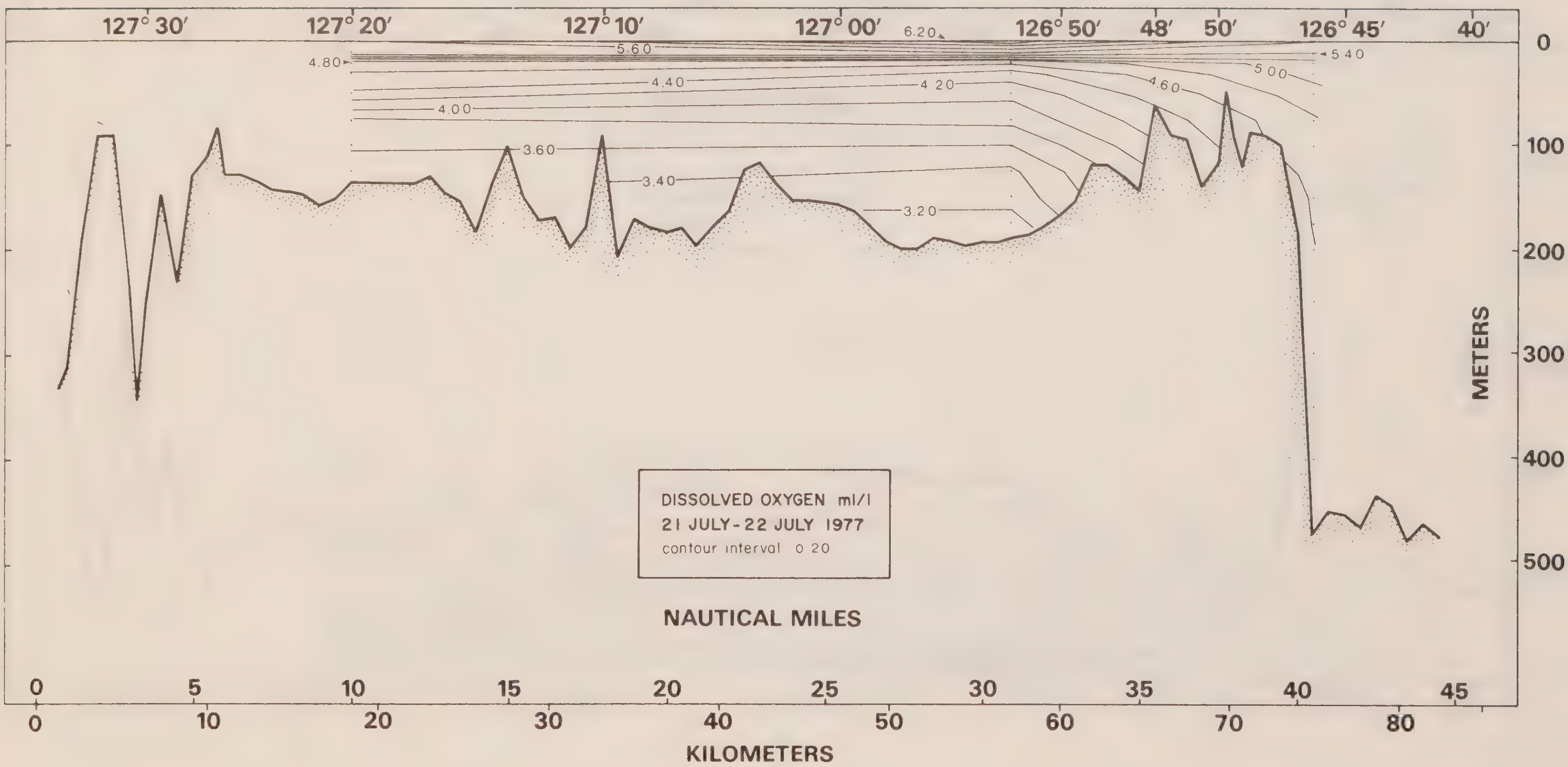


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
9.50
9.40
9.60
10.30
9.80
8.80
8.60
8.40
8.00
7.80
7.60
7.40
7.20
7.00
8.20
9.20
9.00
0
100
200
300
400
500
METERS
TEMPERATURE °C
21 JULY - 22 JULY 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
10
20
30
40
50
60
70
80
KILOMETERS


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
31.10
31.00
31.20
31.40
31.60
31.80
32.00
32.20
32.40
32.60
32.80
33.00
0
100
200
300
400
500
METERS
SALINITY ‰
21 JULY-22 JULY 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS



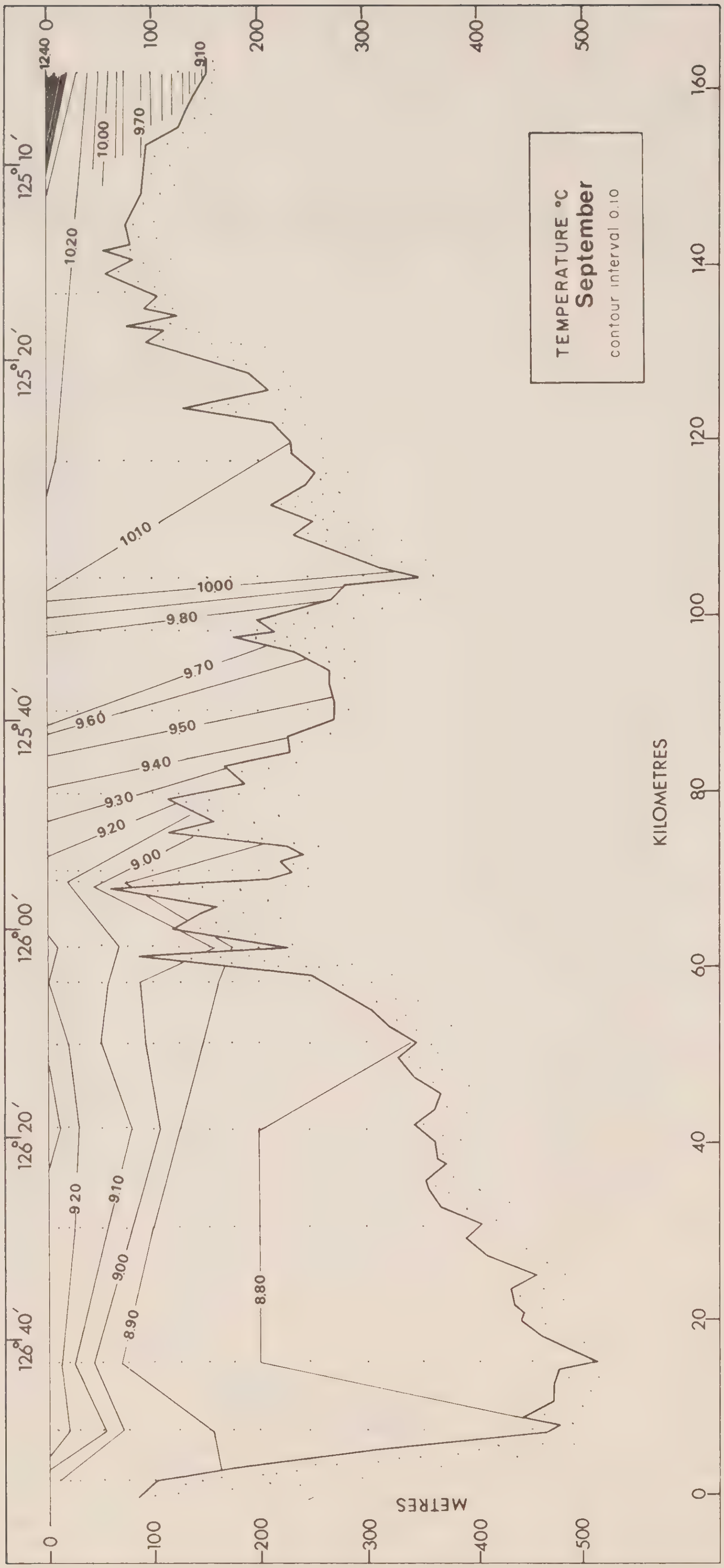
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
24.00
24.20
24.80
25.00
23.90
25.40
25.20
25.60
25.80
24.40
24.60
24.70
0
100
200
300
400
500
METERS
SIGMA-T
21 JULY-22 JULY 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

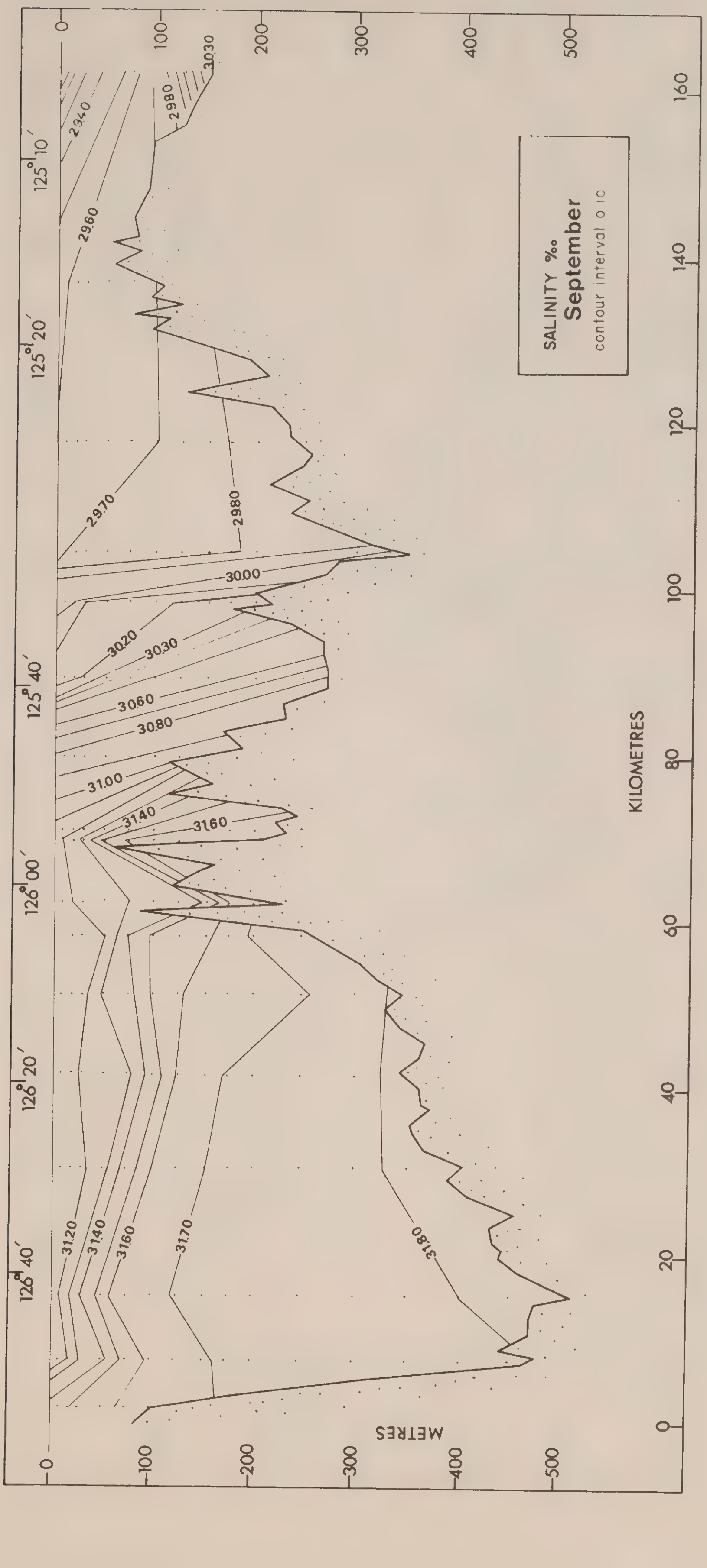

127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
6.20
5.60
5.40
5.00
4.80
4.60
4.40
4.20
4.00
3.60
3.40
3.20
0
100
200
300
400
500
METERS
DISSOLVED OXYGEN ml/l
21 JULY - 22 JULY 1977
contour interval 0.20
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

## 3.7 Cruise 77-14 (September 1977)

Mid-channel sections of temperature, salinity, sigma-t, dissolved oxygen, nitrate, phosphate and silicate.

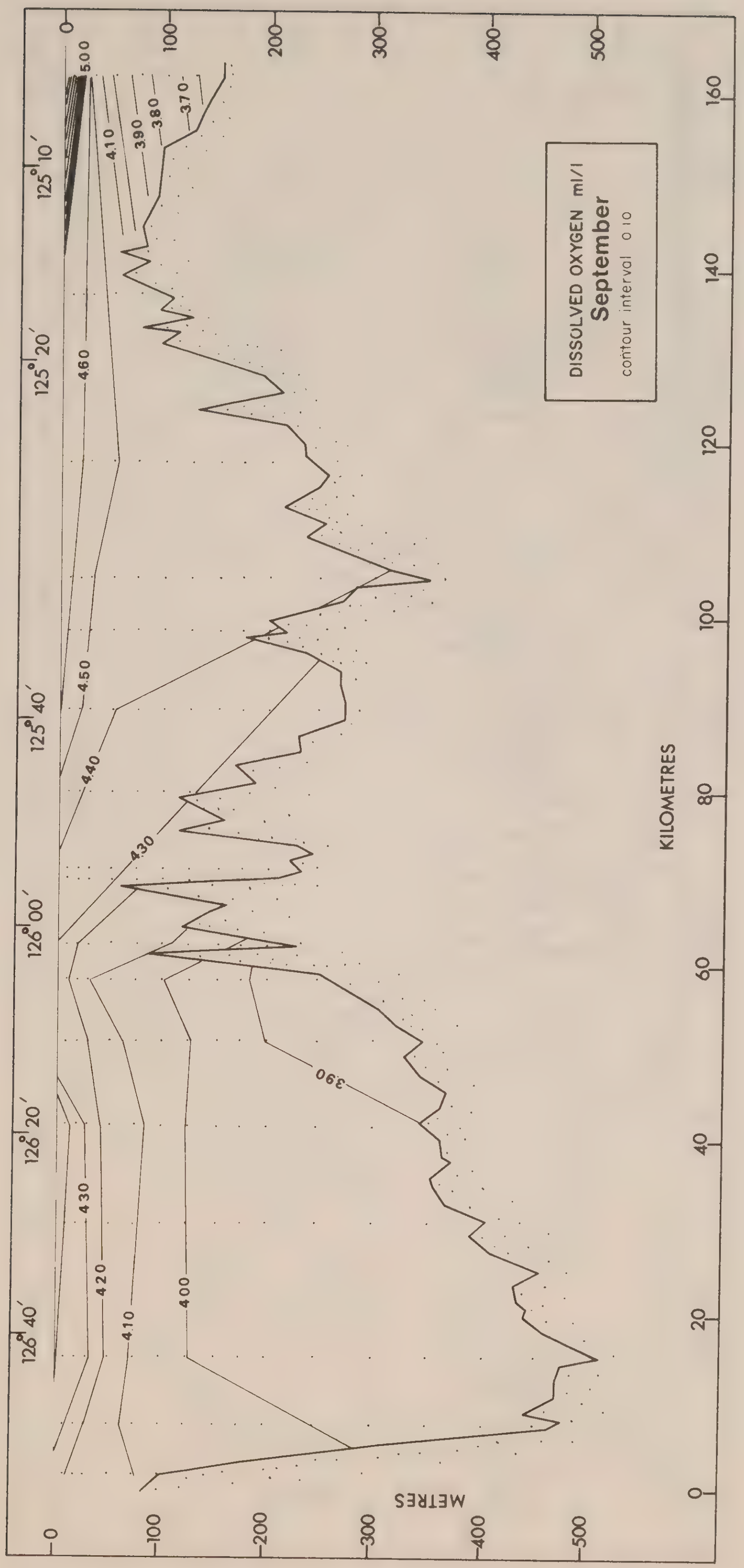
Plots are presented in the following sequence: inbound Johnstone Strait - Discovery Passage; and Gordon Channel - Broughton Strait transect of Queen Charlotte Strait.


TEMPERATURE °C
September
contour interval 0.10
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160
12.40
10.20
10.10
10.00
9.80
9.70
9.60
9.50
9.40
9.30
9.20
9.10
9.00
8.90
8.80

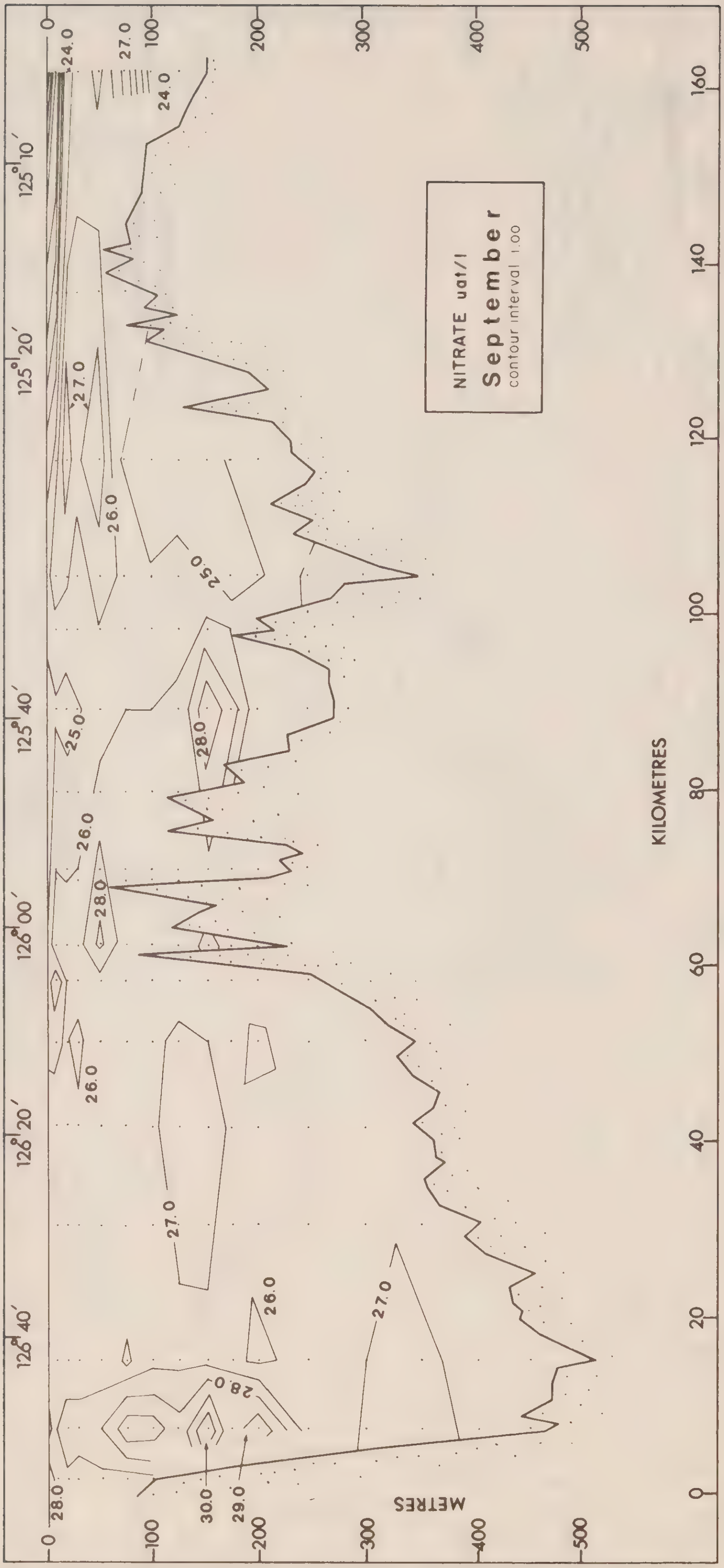


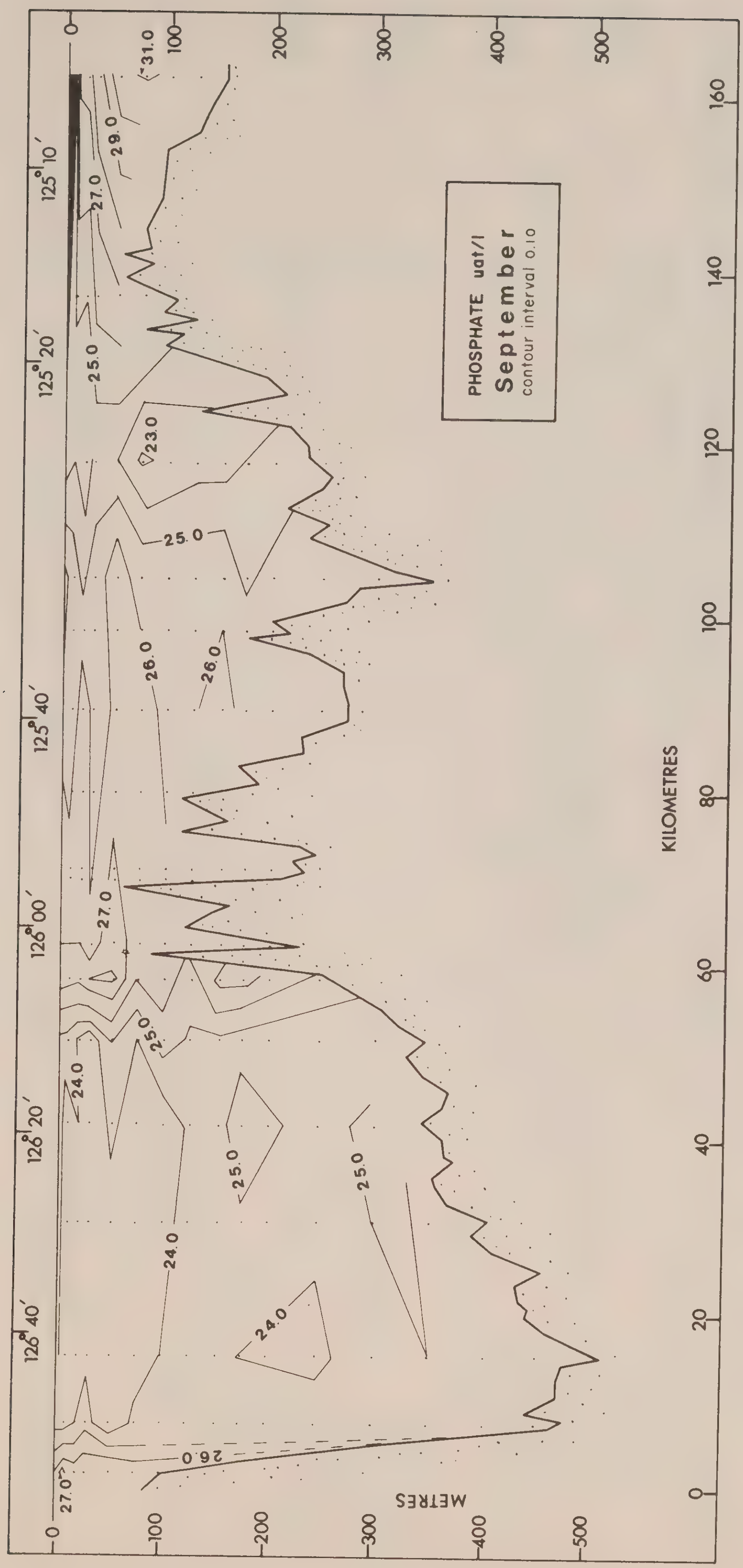
SALINITY ‰
September
contour interval 0.10
KILOMETRES
METRES
0
20
40
60
80
100
120
140
160
100
200
300
400
500
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
29.40
29.60
29.70
29.80
30.00
30.20
30.30
30.60
30.80
31.00
31.20
31.40
31.60
31.70
31.80

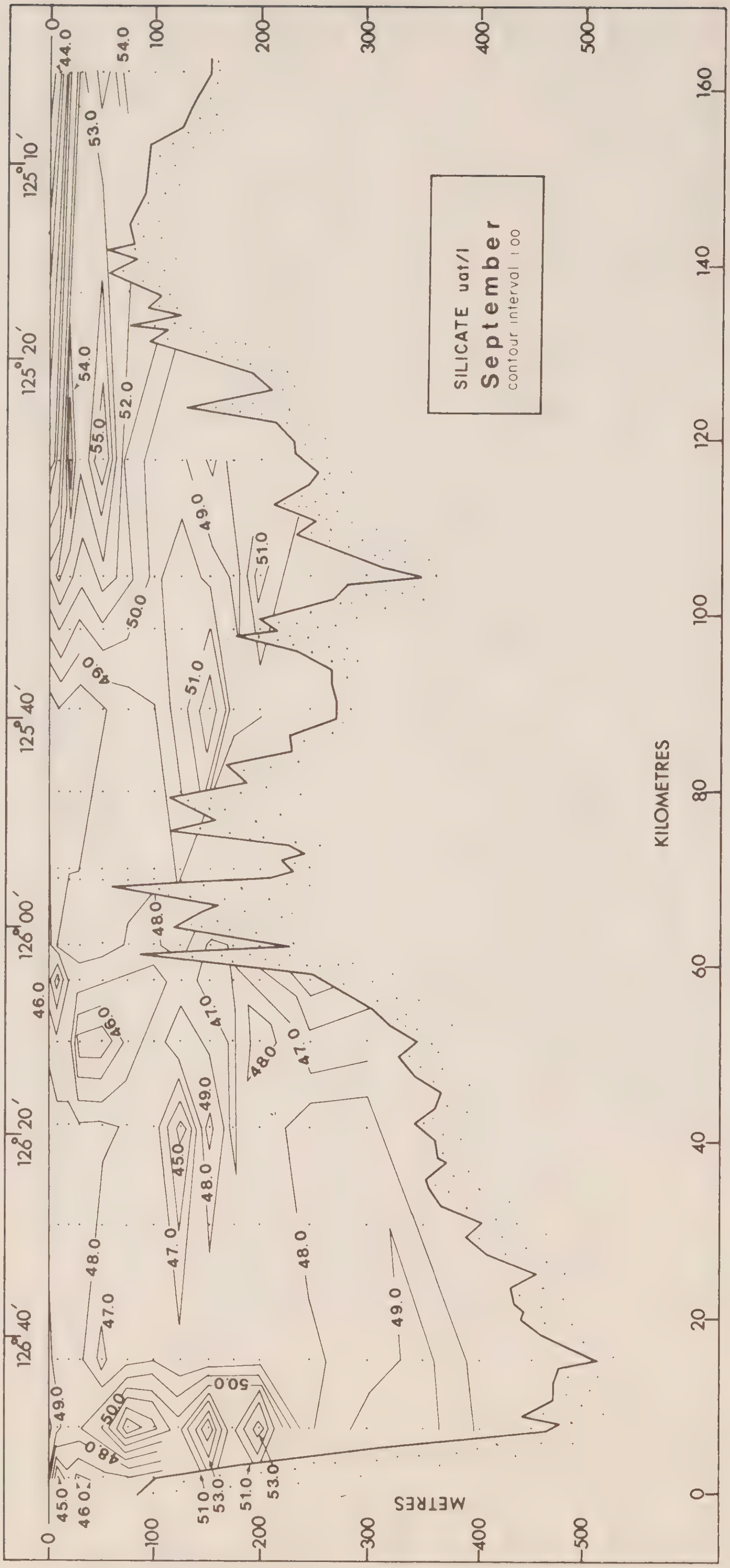
SIGMA-T
September
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
0
20
40
60
80
100
120
140
160
0
100
200
300
400
500
22.70
22.80
22.90
23.00
23.30
23.50
23.70
23.90
24.10
24.20
24.30
24.40
24.50
24.60
24.70

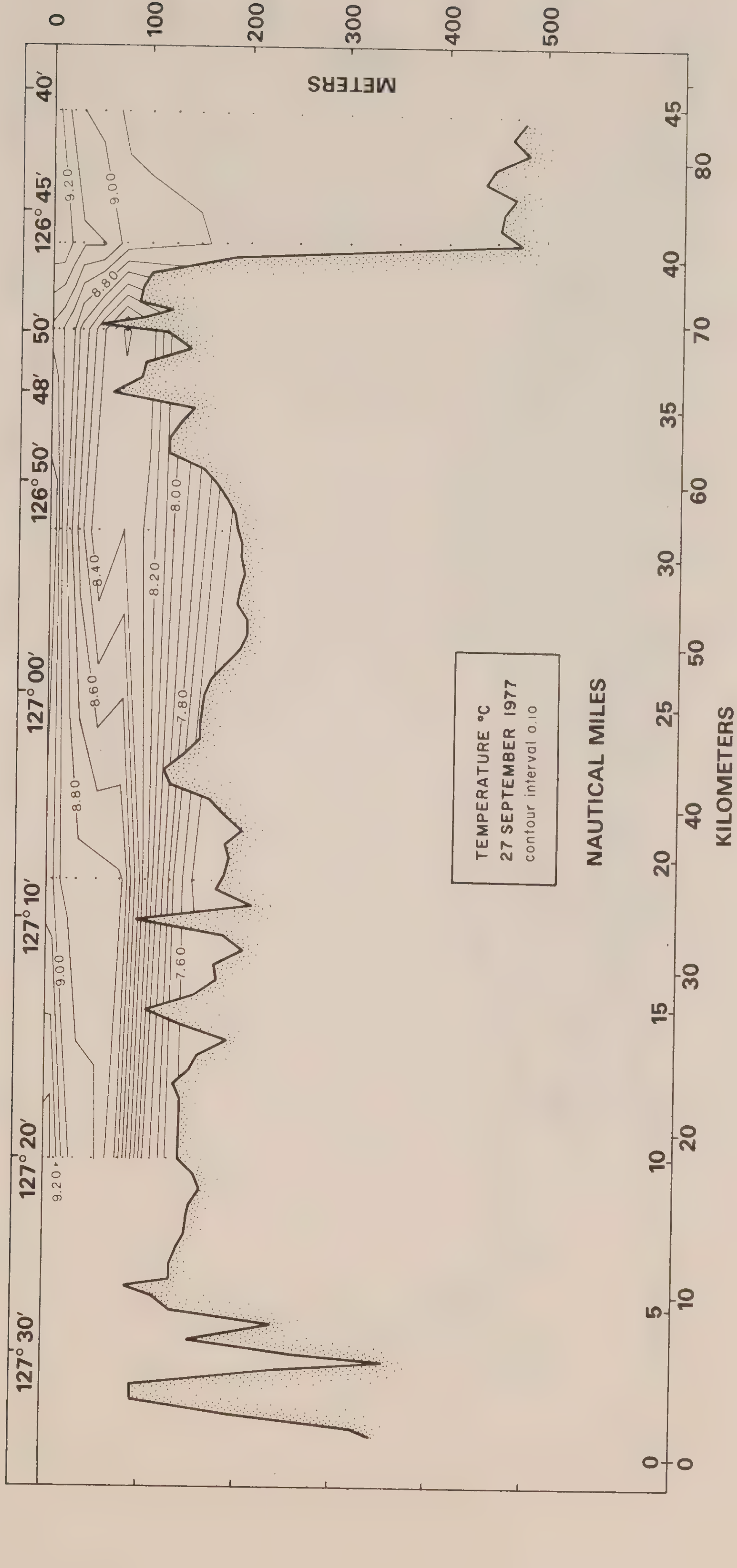


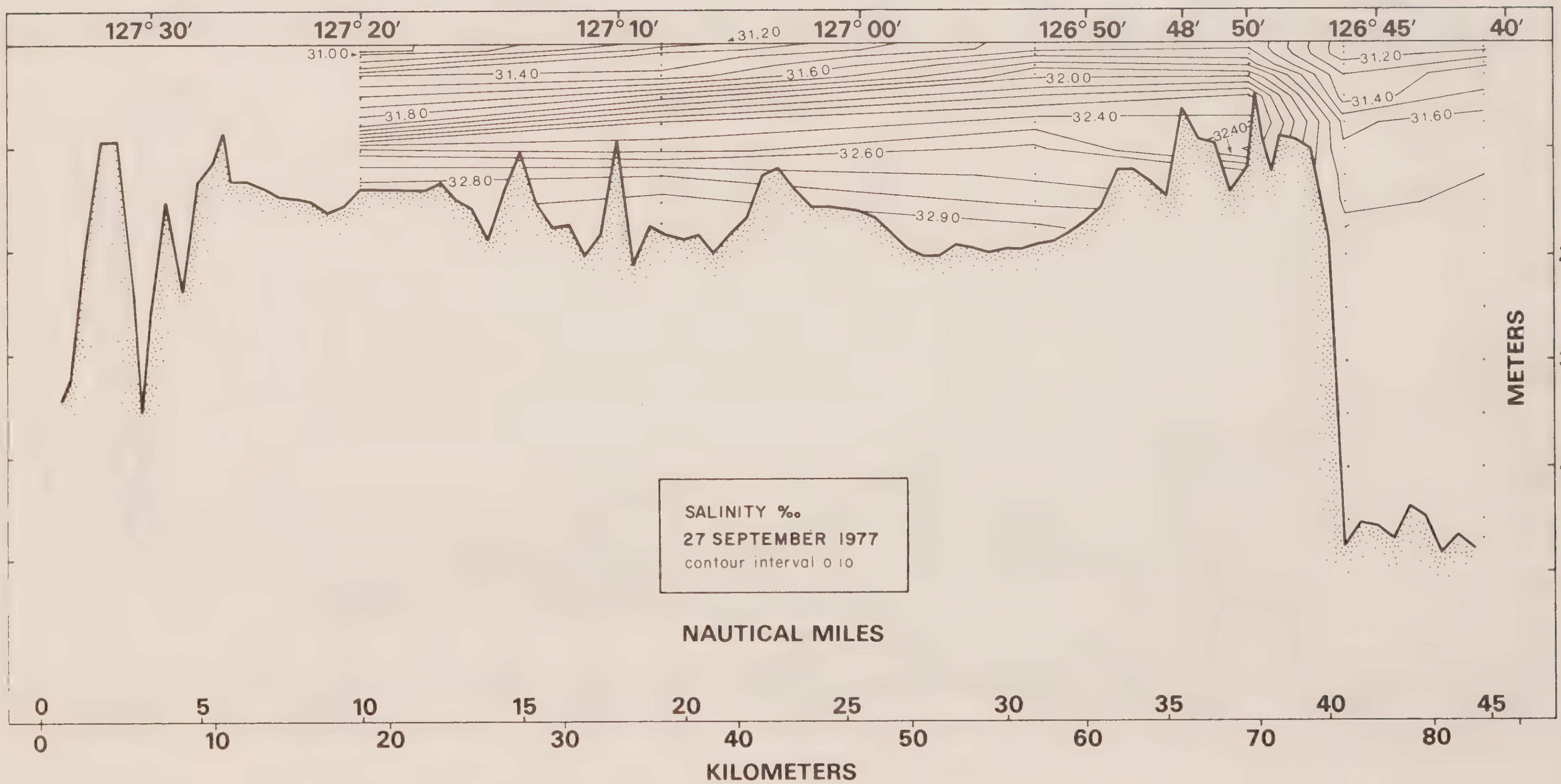
DISSOLVED OXYGEN ml/l
September
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′

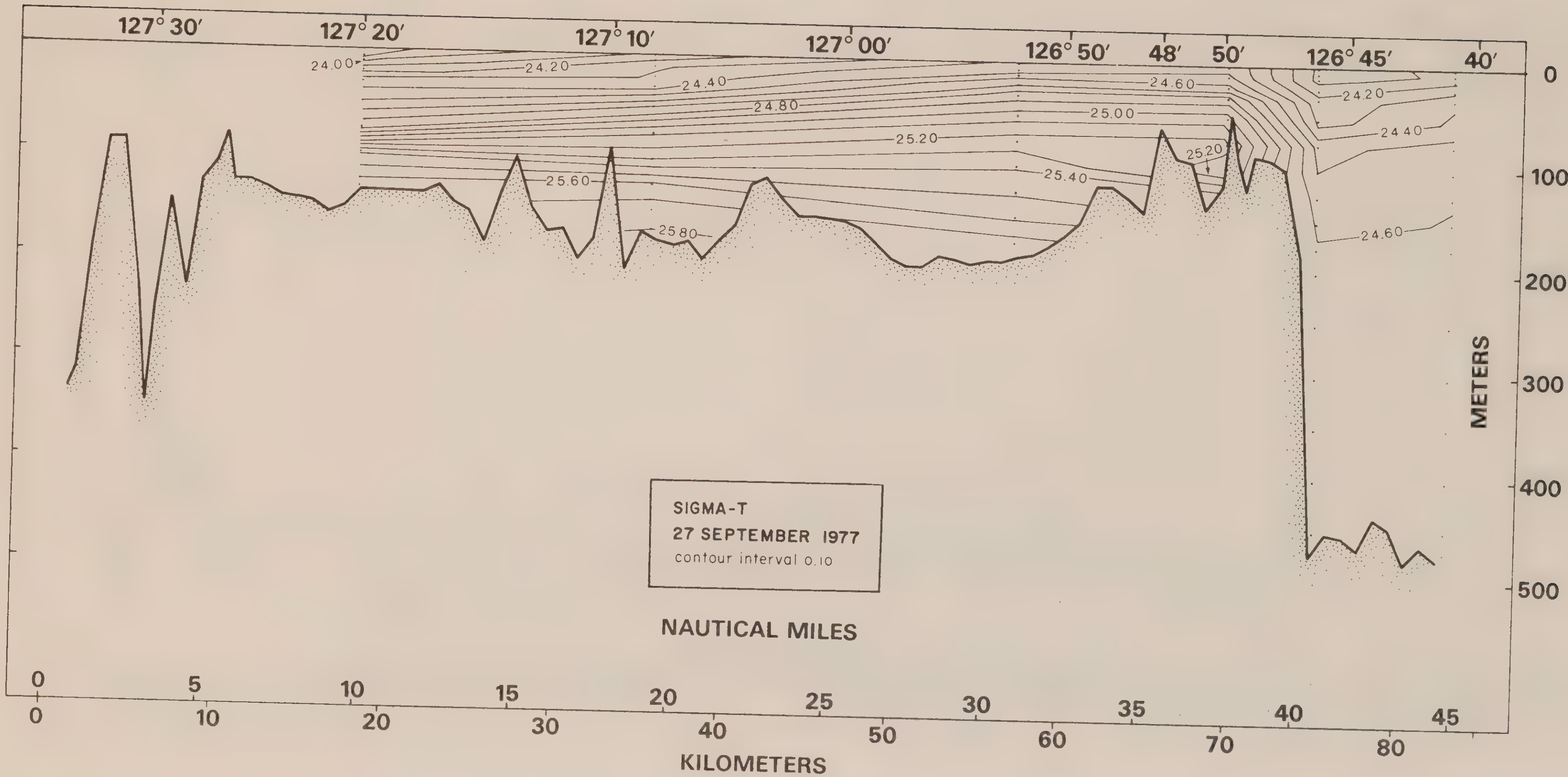

NITRATE ua t/l
September
contour interval 1.00
KILOMETRES
METRES
126°40´
126°20´
126°00´
125°40´
125°20´
125°10´

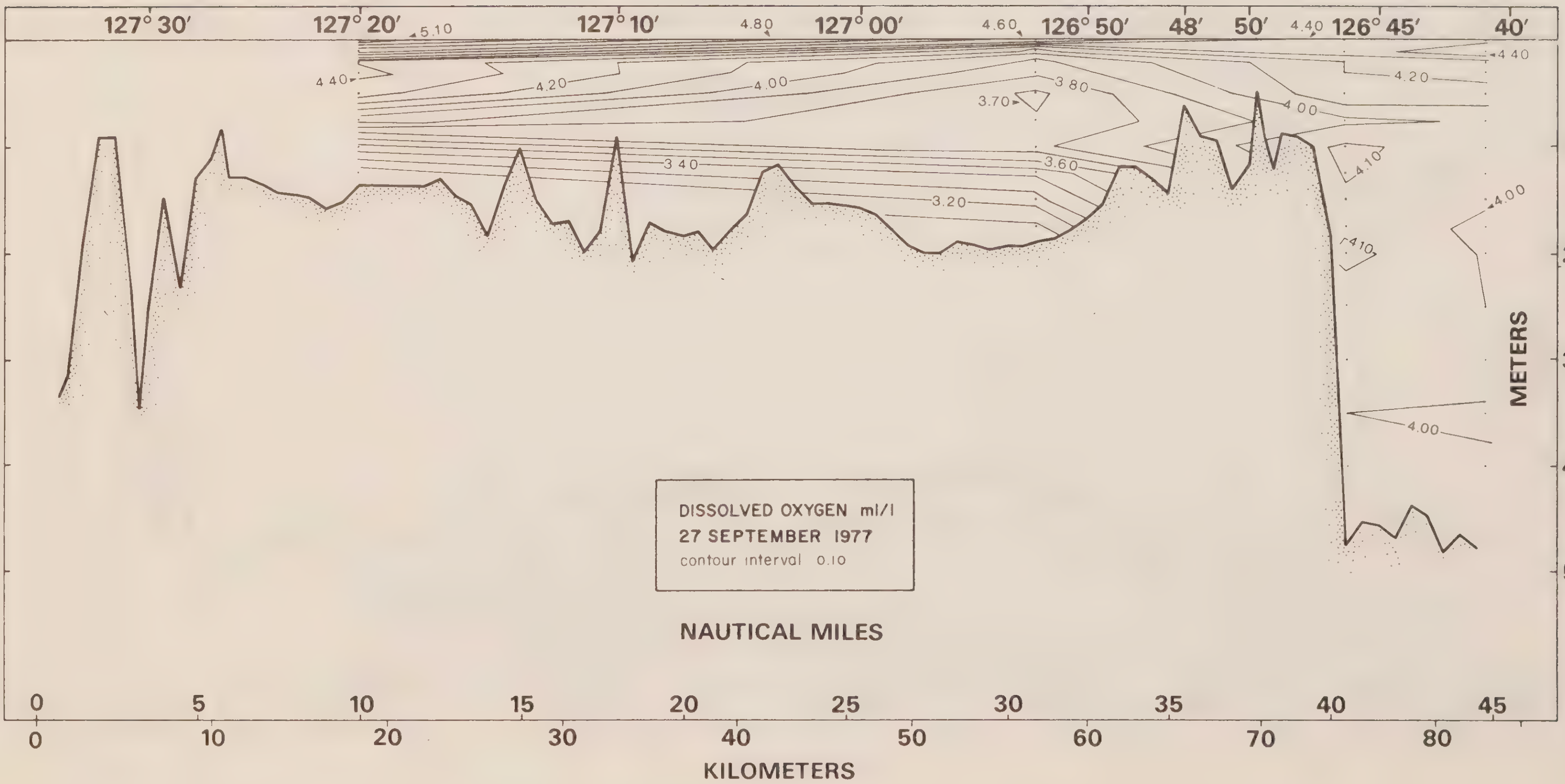

PHOSPHATE uat/l
September
contour interval 0.10
METRES
KILOMETRES
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160
126° 40′
126° 20′
126° 00′
125° 40′
125° 20′
125° 10′
27.0
26.0
24.0
25.0
23.0
29.0
31.0


SILICATE uat/l
September
contour interval 1.00
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′

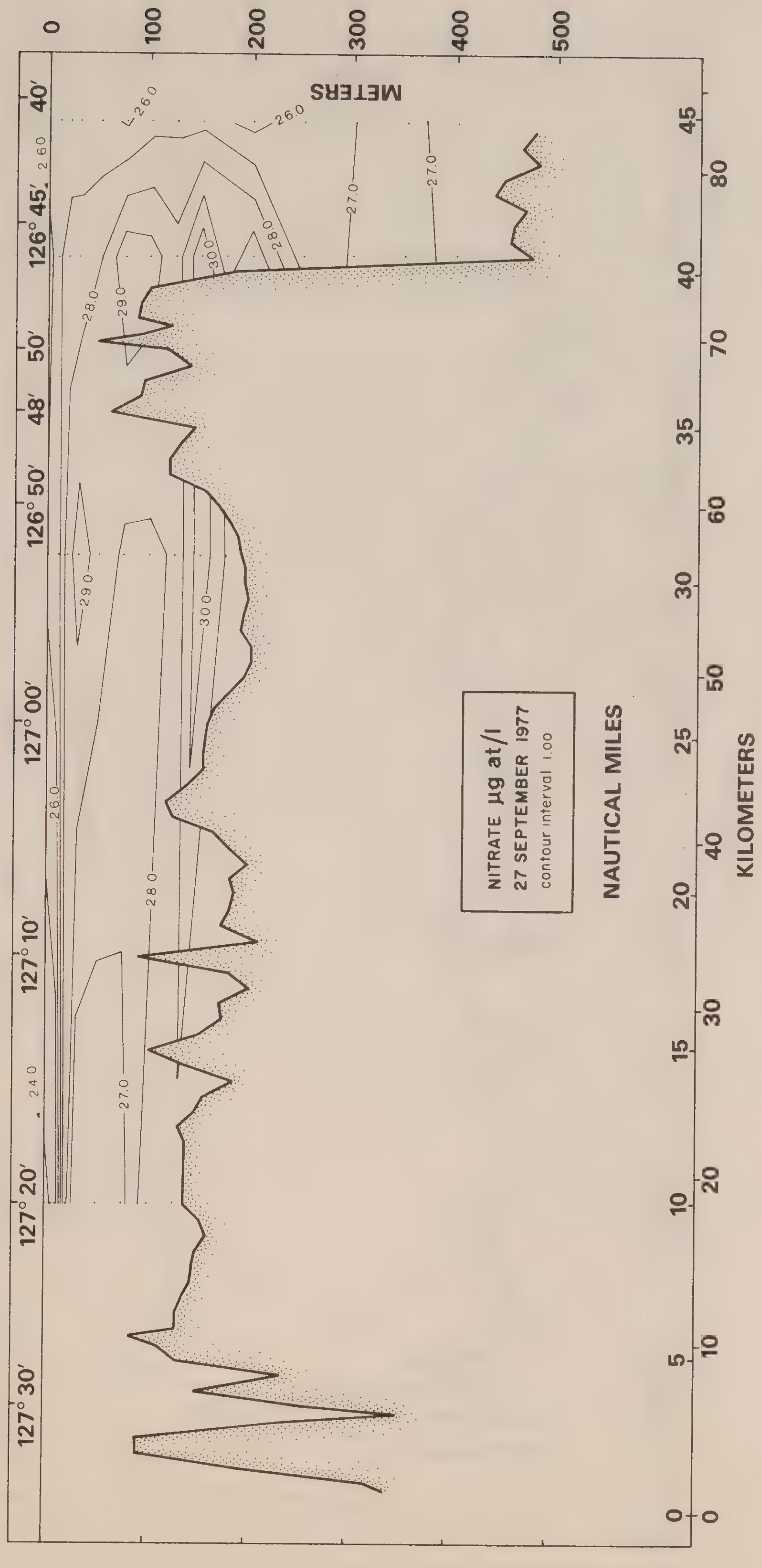

TEMPERATURE °C
27 SEPTEMBER 1977
contour interval 0.10
NAUTICAL MILES
KILOMETERS
METERS
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
9.20
9.00
8.80
8.60
8.40
8.20
8.00
7.80
7.60
0
100
200
300
400
500
5
10
15
20
25
30
35
40
45
50
60
70
80

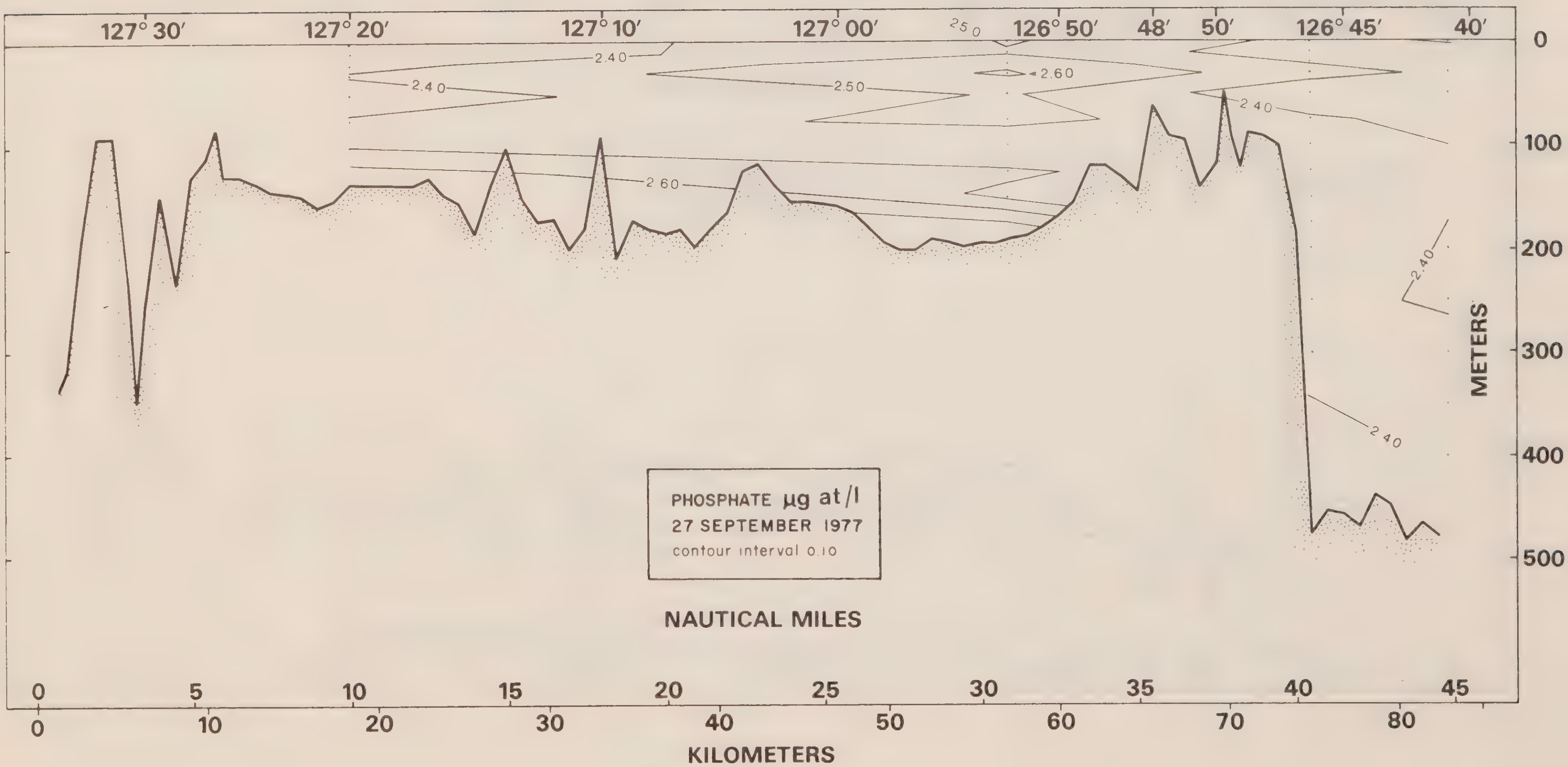

127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
31.00
31.20
31.40
31.60
31.80
32.00
32.40
32.60
32.80
32.90
31.20
31.40
31.60
0
100
200
300
400
500
METERS
SALINITY ‰
27 SEPTEMBER 1977
contour interval 0.10
0
5
10
15
20
25
30
35
40
45
NAUTICAL MILES
0
10
20
30
40
50
60
70
80
KILOMETERS


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
24.00
24.20
24.40
24.60
24.80
25.00
25.20
25.40
25.60
25.80
METERS
0
100
200
300
400
500
SIGMA-T
27 SEPTEMBER 1977
contour interval 0.10
NAUTICAL MILES
KILOMETERS

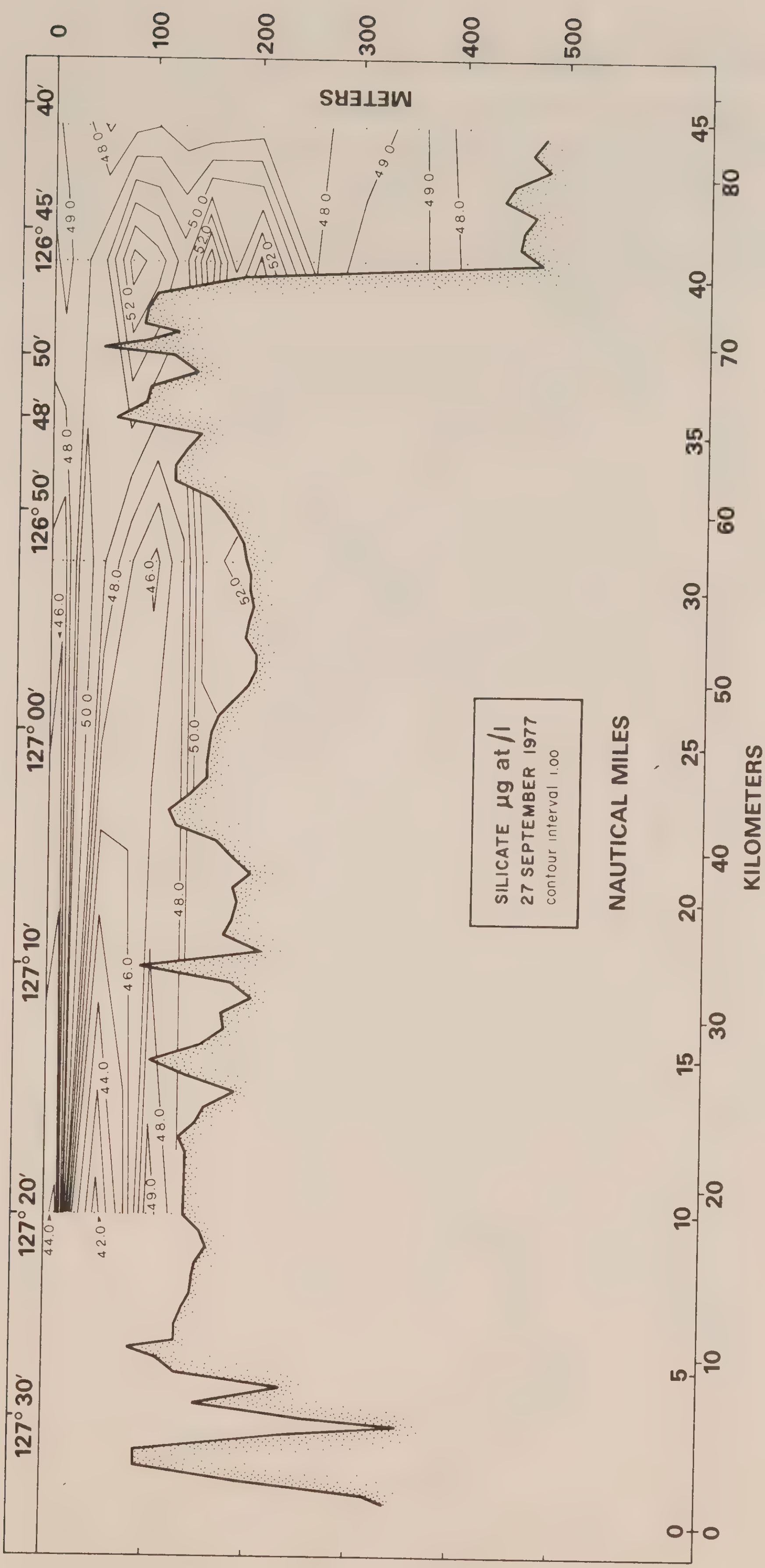


DISSOLVED OXYGEN ml/l
27 SEPTEMBER 1977
contour interval 0.10
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
5.10
4.80
4.60
4.40
4.20
4.00
3.80
3.70
3.60
3.40
3.20
4.10
METERS
0
100
200
300
400
500
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
KILOMETERS
0
10
20
30
40
50
60
70
80


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
0
100
200
300
400
500
METERS
NITRATE µg at/l
27 SEPTEMBER 1977
contour interval 1.00
NAUTICAL MILES
KILOMETERS
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
24.0
26.0
27.0
28.0
29.0
30.0

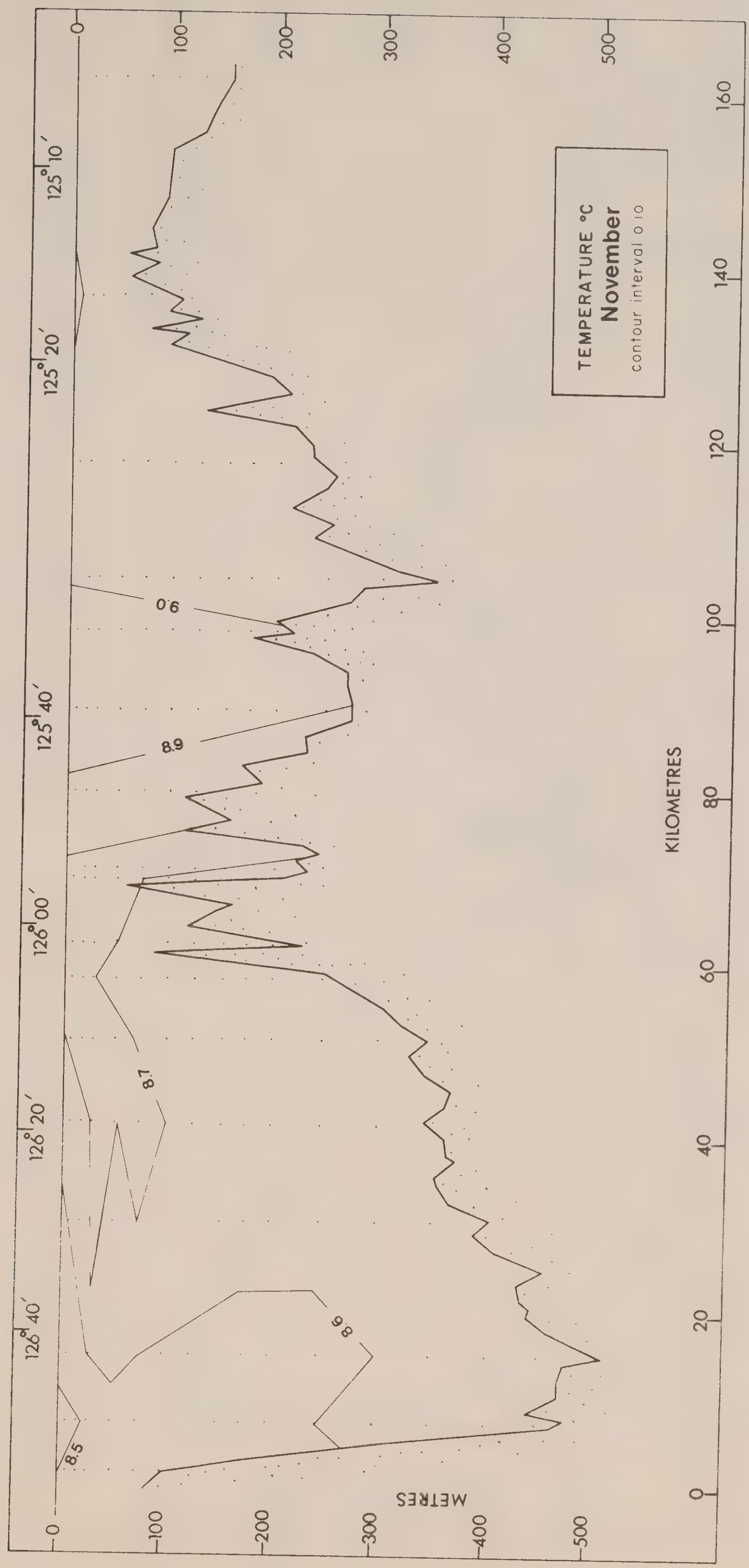


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
2.40
2.50
2.60
METERS
0
100
200
300
400
500
PHOSPHATE µg at/l
27 SEPTEMBER 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
KILOMETERS
0
10
20
30
40
50
60
70
80


SILICATE µg at/l
27 SEPTEMBER 1977
contour interval 1.00
METERS
NAUTICAL MILES
KILOMETERS
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
0
100
200
300
400
500

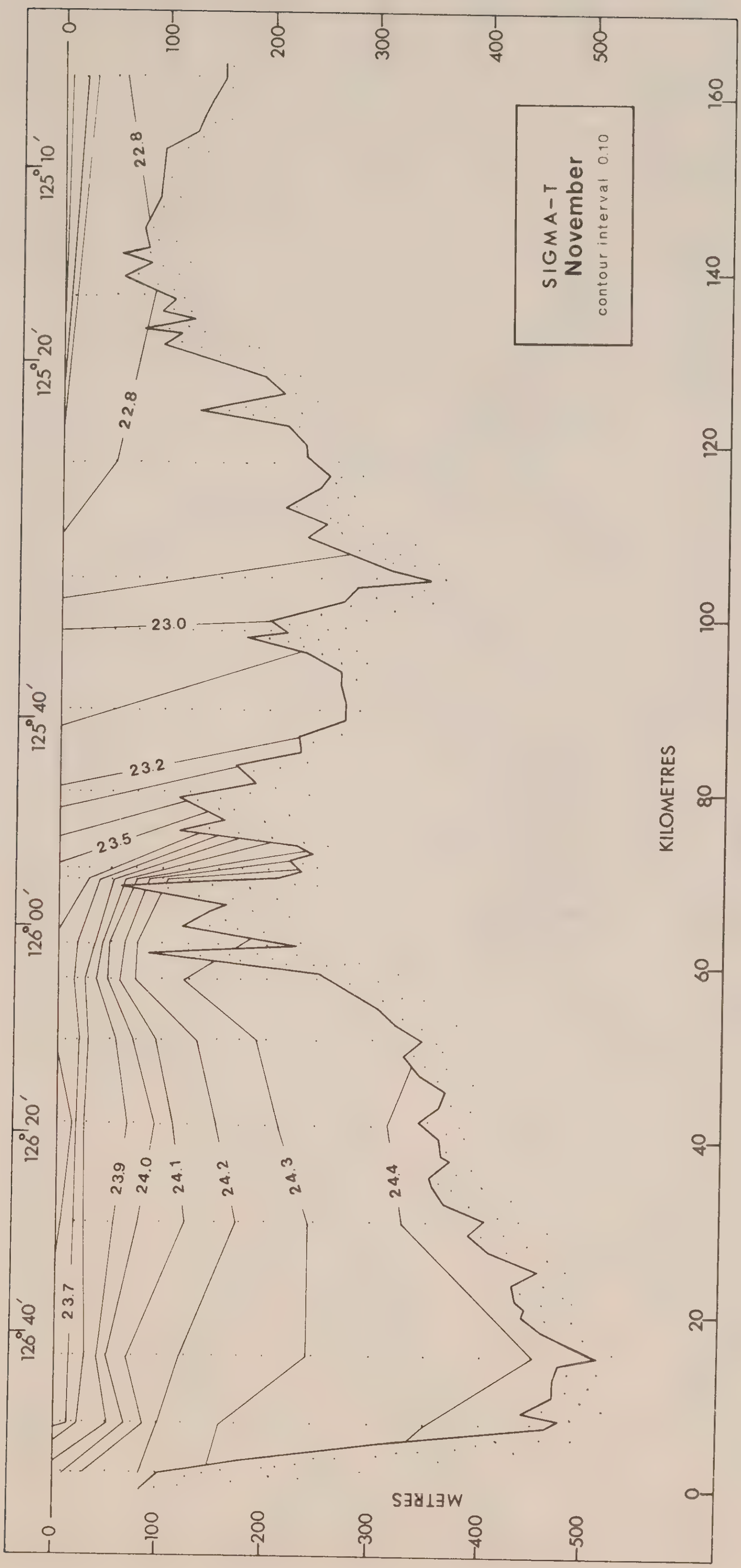
## 3.8 Cruise 77-15 (November 1977)

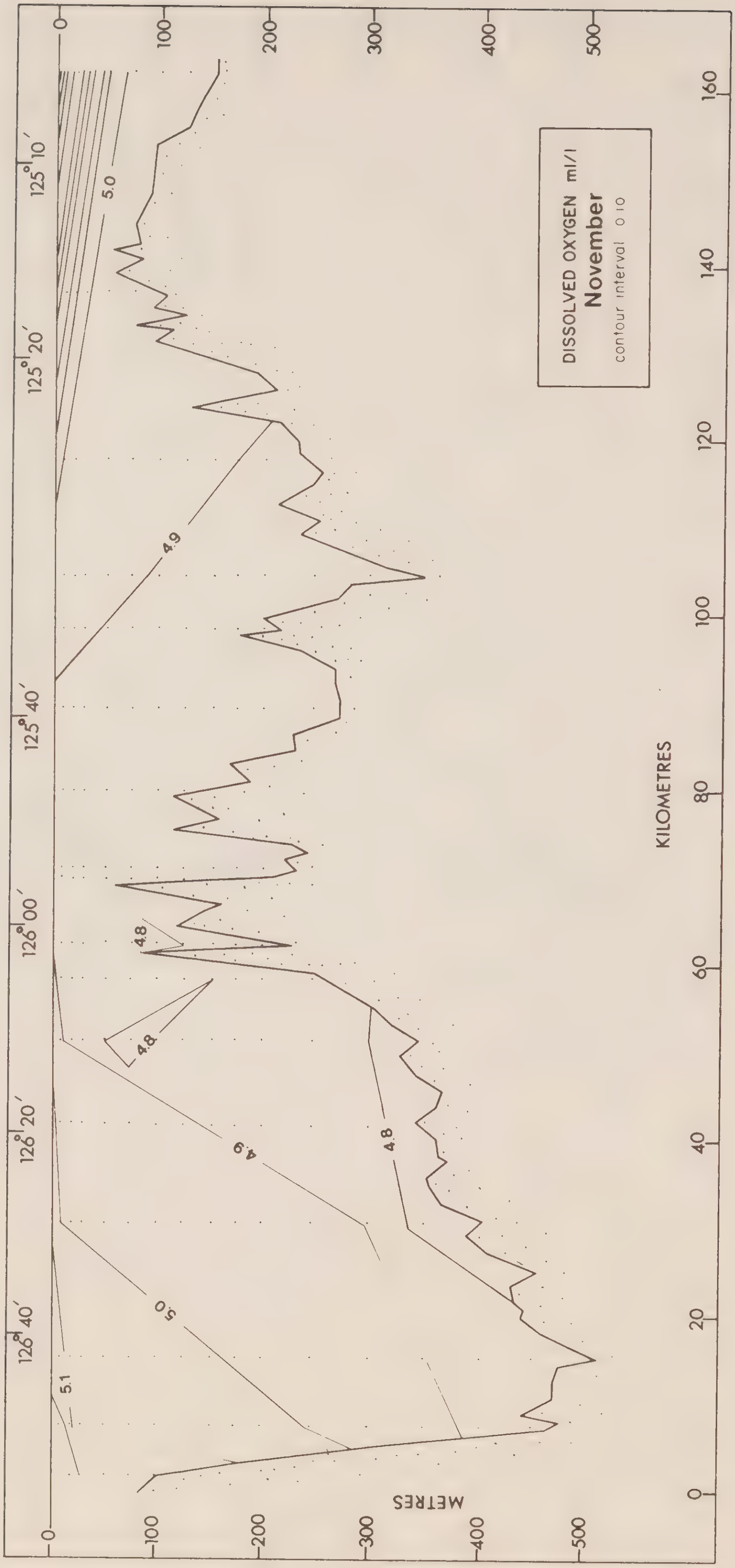
Mid-channel sections of temperature, salinity, sigma-t, dissolved oxygen, nitrate, phosphate and silicate. Plots are presented in the following order: outbound transect of Johnstone Strait - Discovery Passage; Goletas Channel - Broughton Strait; and Gordon Channel - Broughton Strait transect of Queen Charlotte Strait. Due to few data dissolved oxygen and nutrient sections are not available for Queen Charlotte Strait (See Appendices C to E).

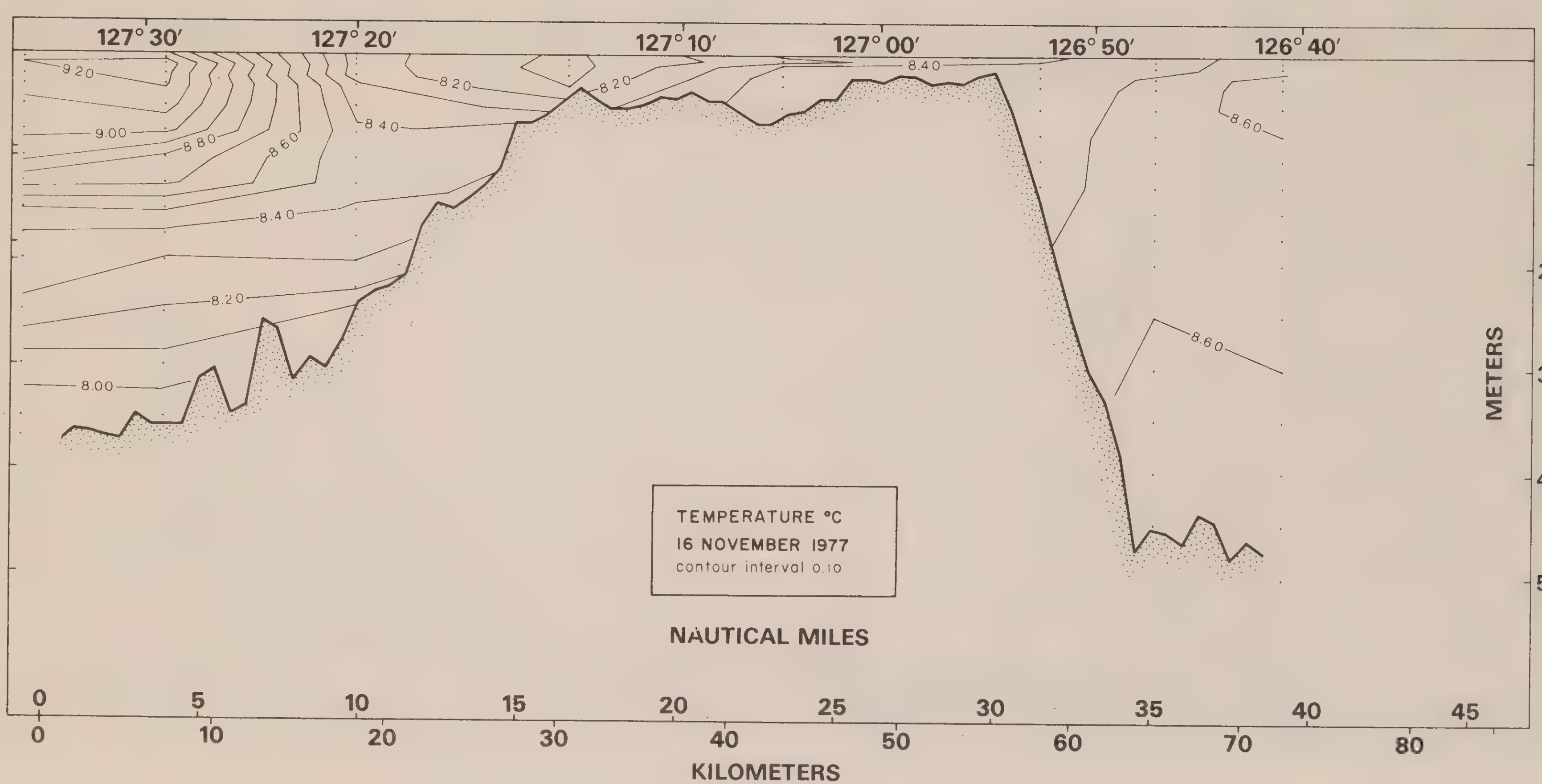


TEMPERATURE °C
November
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
8.5
8.6
8.7
8.9
9.0
0
20
40
60
80
100
120
140
160
0
100
200
300
400
500

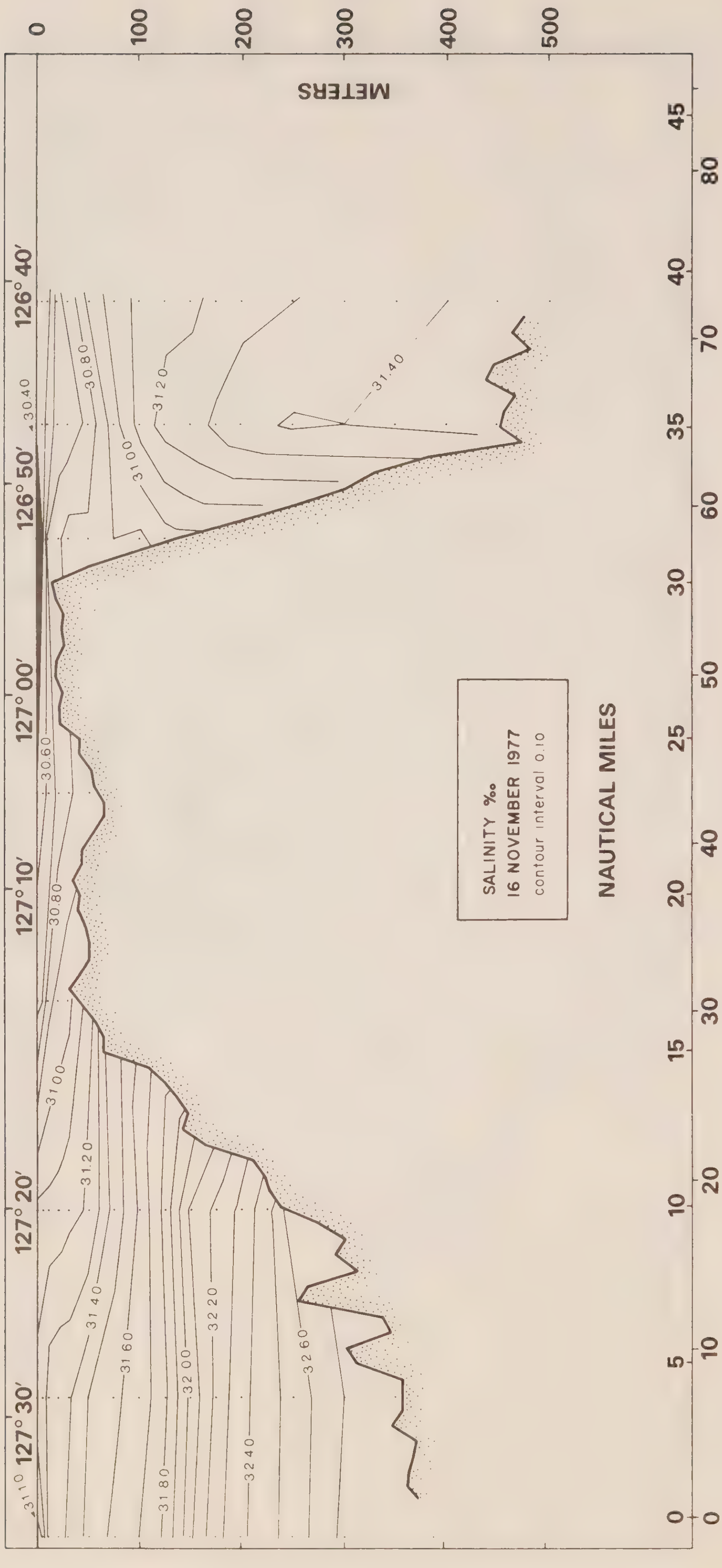

SALINITY ‰
November
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
29.2
29.4
29.5
29.5
29.6
29.7
29.9
30.1
30.3
30.5
30.8
31.0
31.1
31.2
31.3
31.4

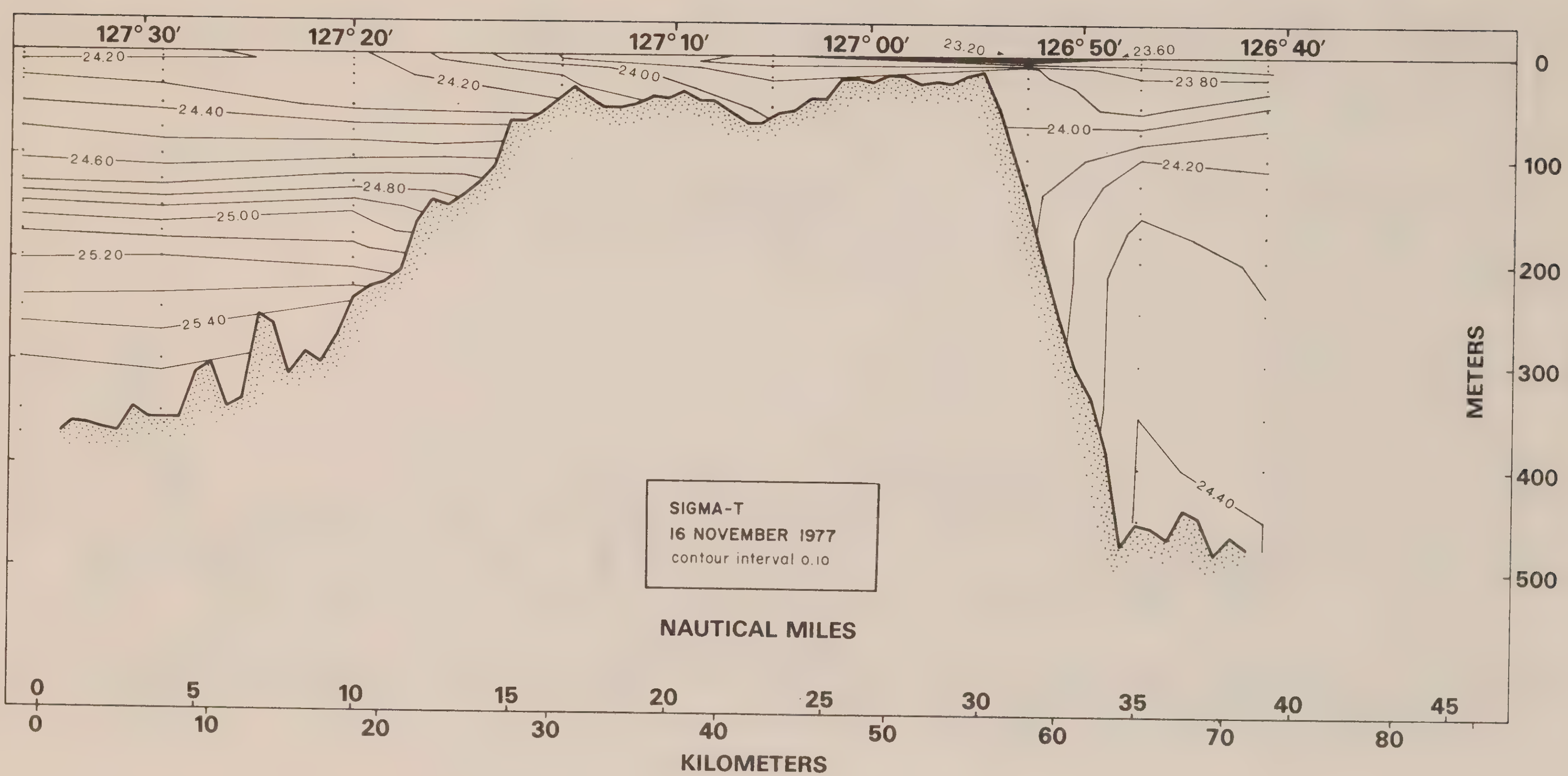

SIGMA-T
November
contour interval 0.10
METRES
KILOMETRES
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
22.8
22.8
23.0
23.2
23.5
23.7
23.9
24.0
24.1
24.2
24.3
24.4

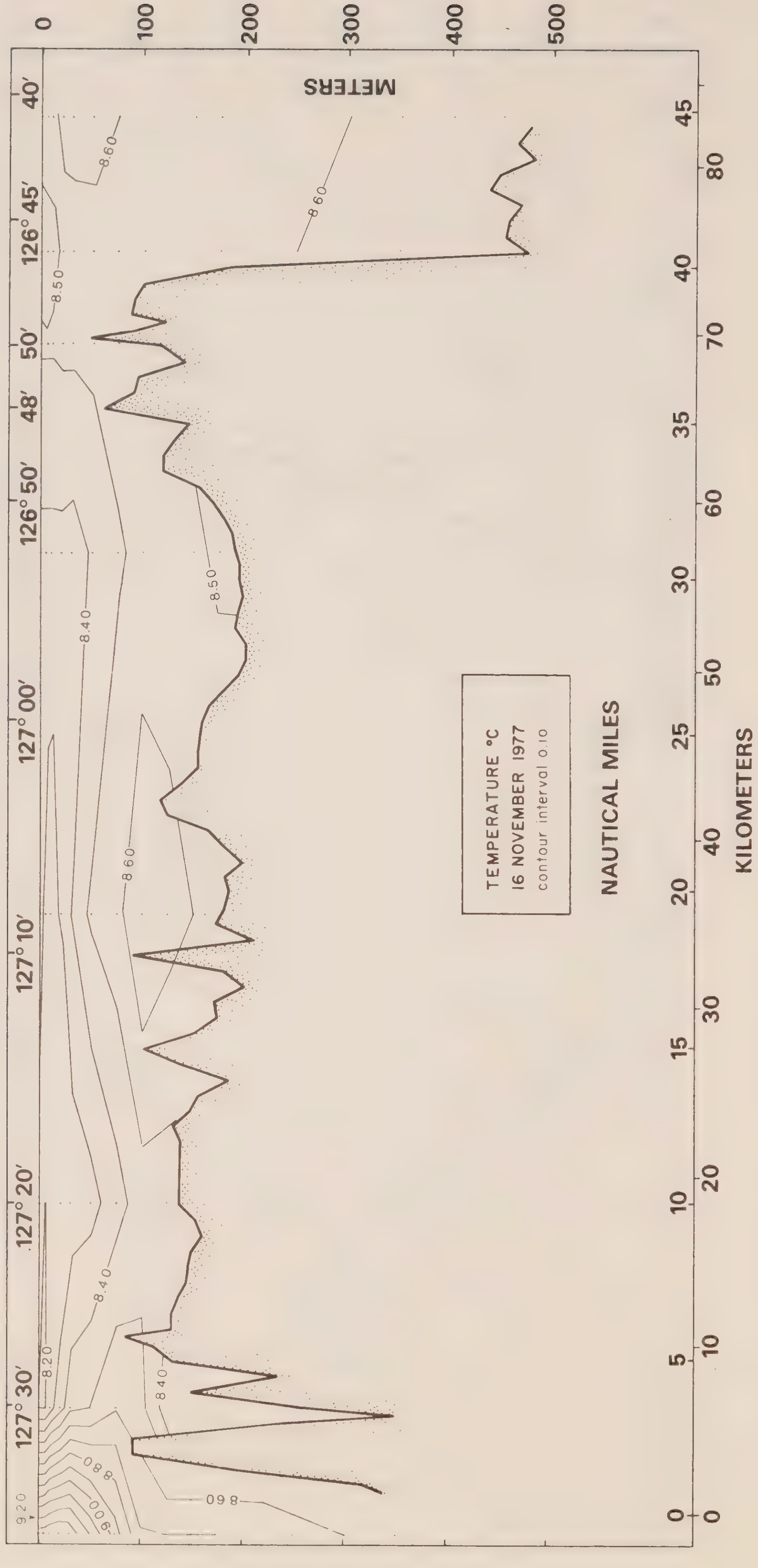

DISSOLVED OXYGEN ml/l
November
contour interval 0.10
KILOMETRES
METRES
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
5.1
5.0
4.9
4.8
4.8
4.8
4.9
5.0
0
20
40
60
80
100
120
140
160
0
100
200
300
400
500



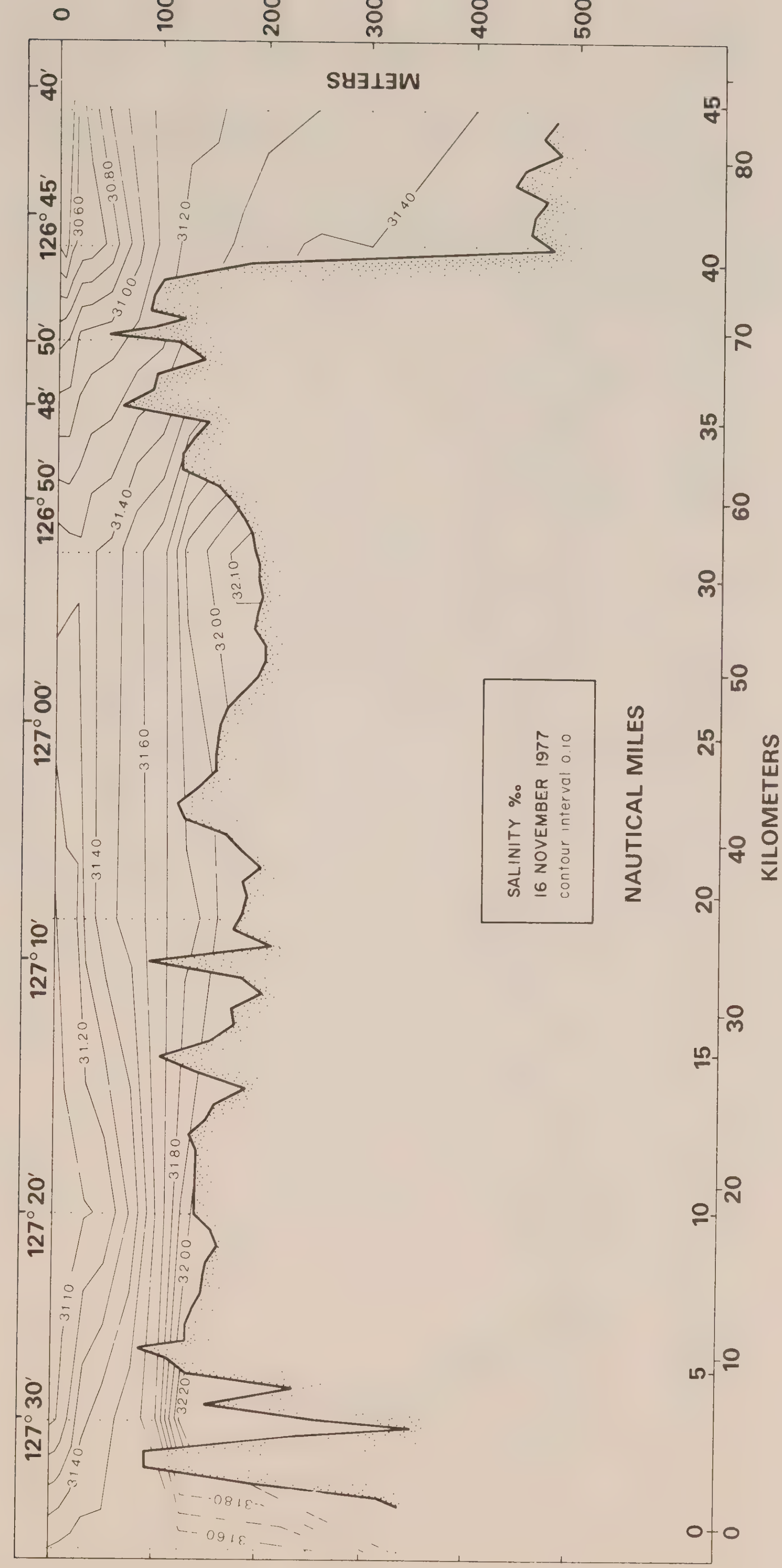
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
9.20
9.00
8.80
8.60
8.40
8.20
8.00
METERS
0
100
200
300
400
500
TEMPERATURE °C
16 NOVEMBER 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

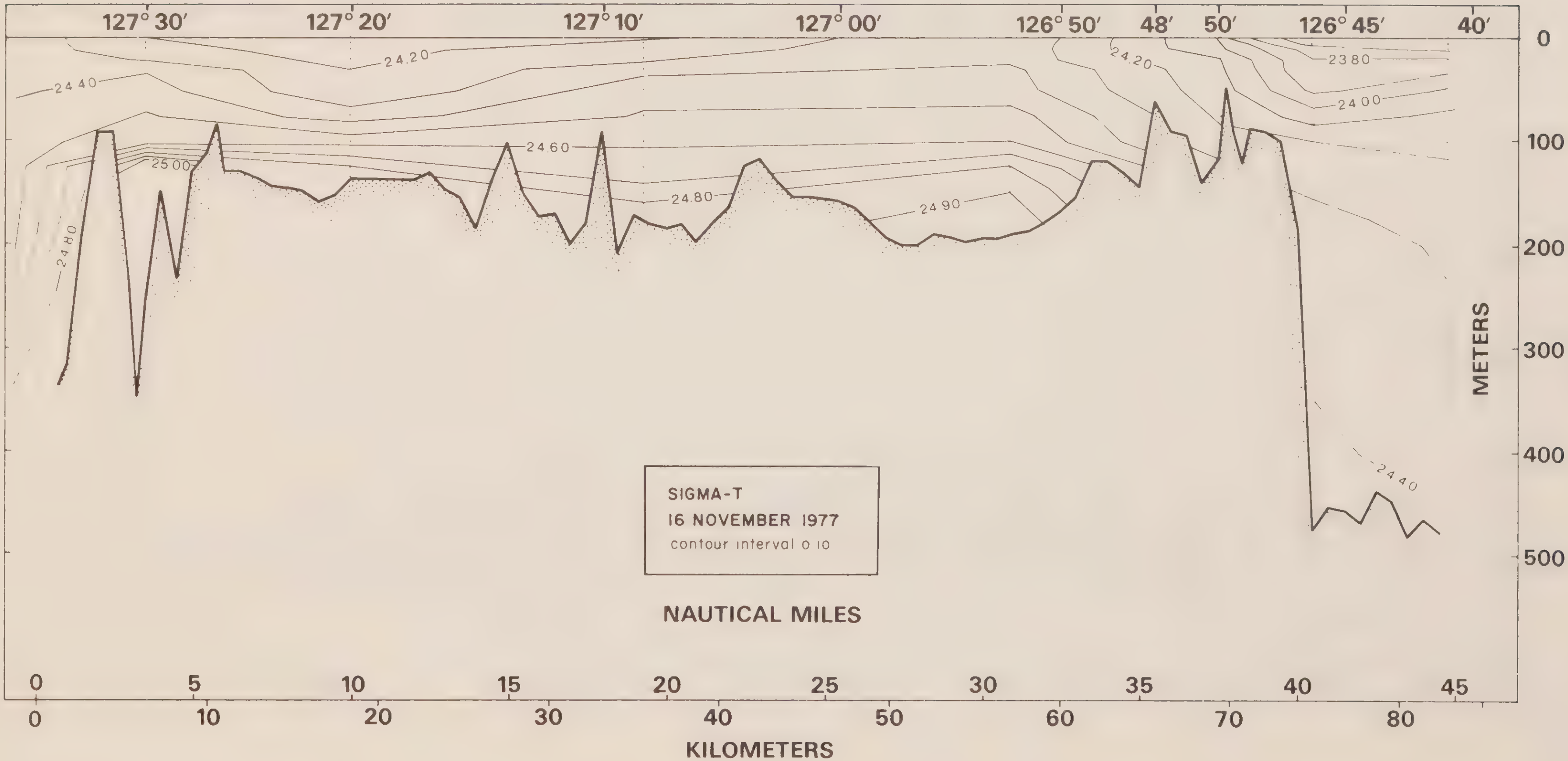

SALINITY ‰
16 NOVEMBER 1977
contour interval 0.10
NAUTICAL MILES
KILOMETERS
METERS
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
0
100
200
300
400
500
30.40
30.60
30.80
31.00
31.10
31.20
31.40
31.60
31.80
32.00
32.20
32.40
32.60


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
23.20
23.60
23.80
24.00
24.20
24.40
24.60
24.80
25.00
25.20
25.40
0
100
200
300
400
500
METERS
SIGMA-T
16 NOVEMBER 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS



TEMPERATURE °C
16 NOVEMBER 1977
contour interval 0.10
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
METERS
NAUTICAL MILES
KILOMETERS

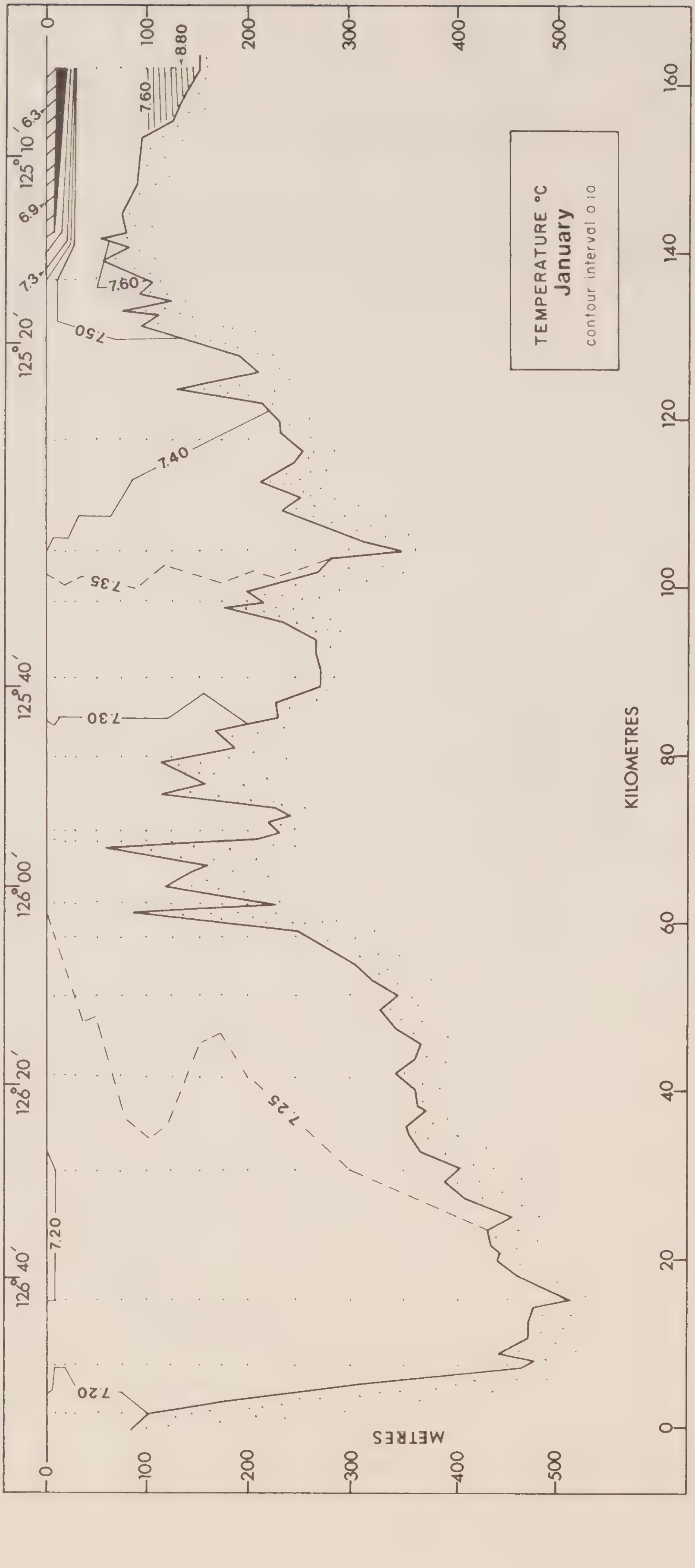

SALINITY ‰
16 NOVEMBER 1977
contour interval 0.10
METERS
NAUTICAL MILES
KILOMETERS
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
0
100
200
300
400
500
5
10
15
20
25
30
35
40
45
60
70
80
31.40
31.10
32.20
32.00
31.80
31.20
31.60
32.10
31.00
30.80
30.60
31.60
31.80


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
24.20
24.40
24.60
25.00
24.80
24.90
23.80
24.00
24.20
24.80
24.40
0
100
200
300
400
500
METERS
SIGMA-T
16 NOVEMBER 1977
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

3.9 Cruise 78-10 (January 1978)

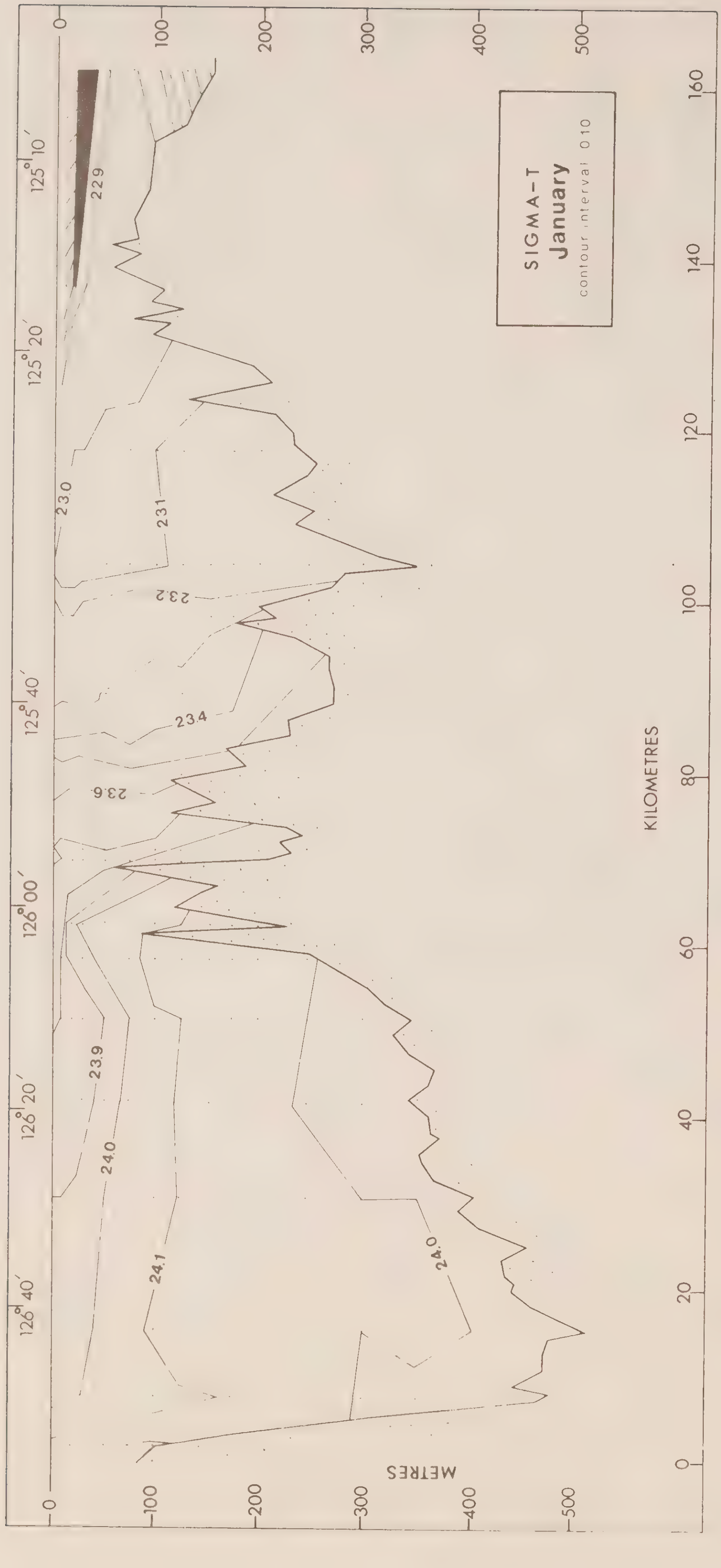
Mid-channel sections of temperature, salinity, sigma-t, dissolved oxygen, nitrate, phosphate and silicate.

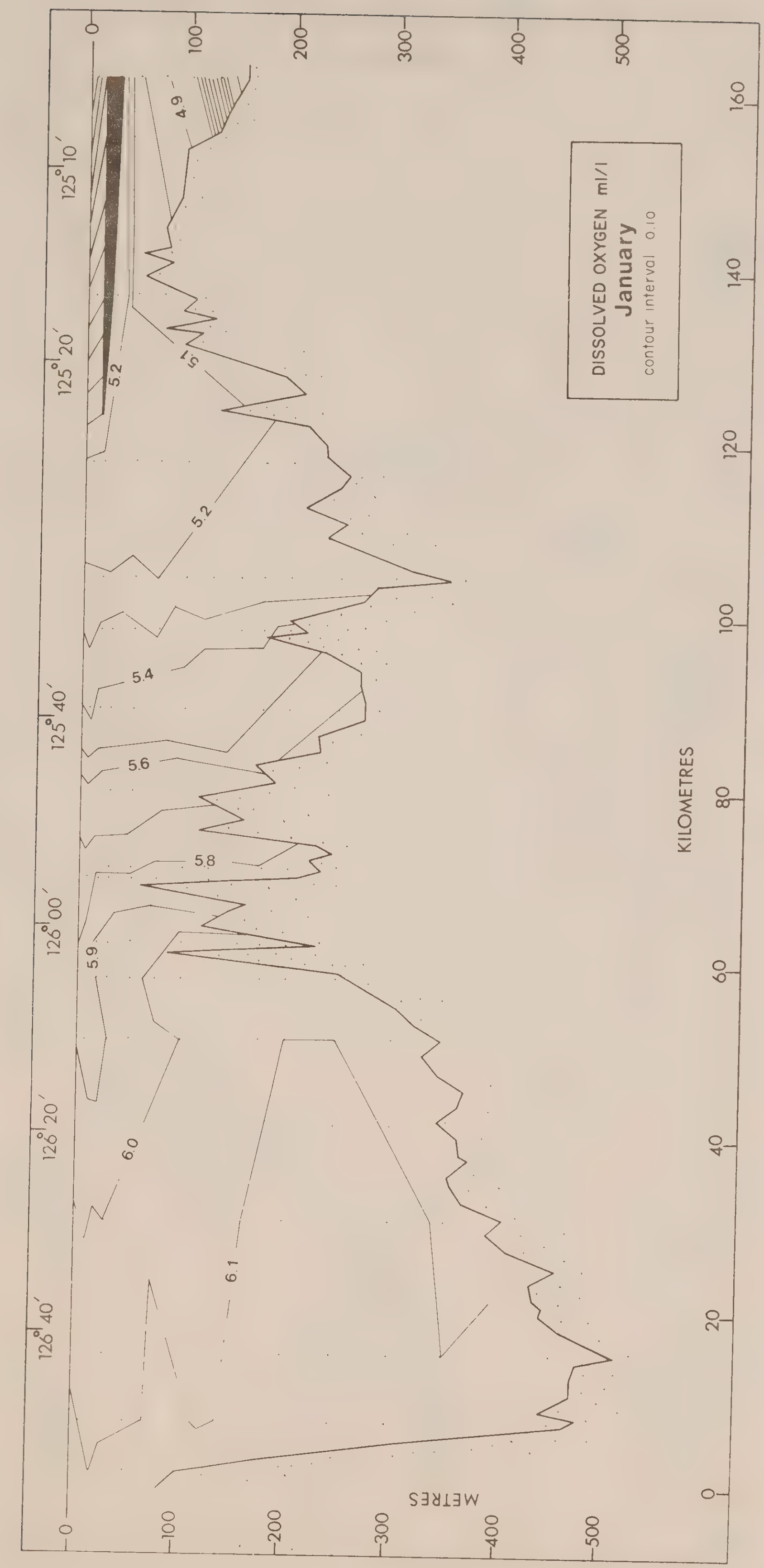
Plots are presented in the following sequence: Johnstone Strait - Discovery Passage transect; Goletas Channel - Broughton Strait transect; and Gordon Channel - Broughton Strait transect. Due to few data, nutrient sections are not available for Queen Charlotte Strait. (See Appendix E.)

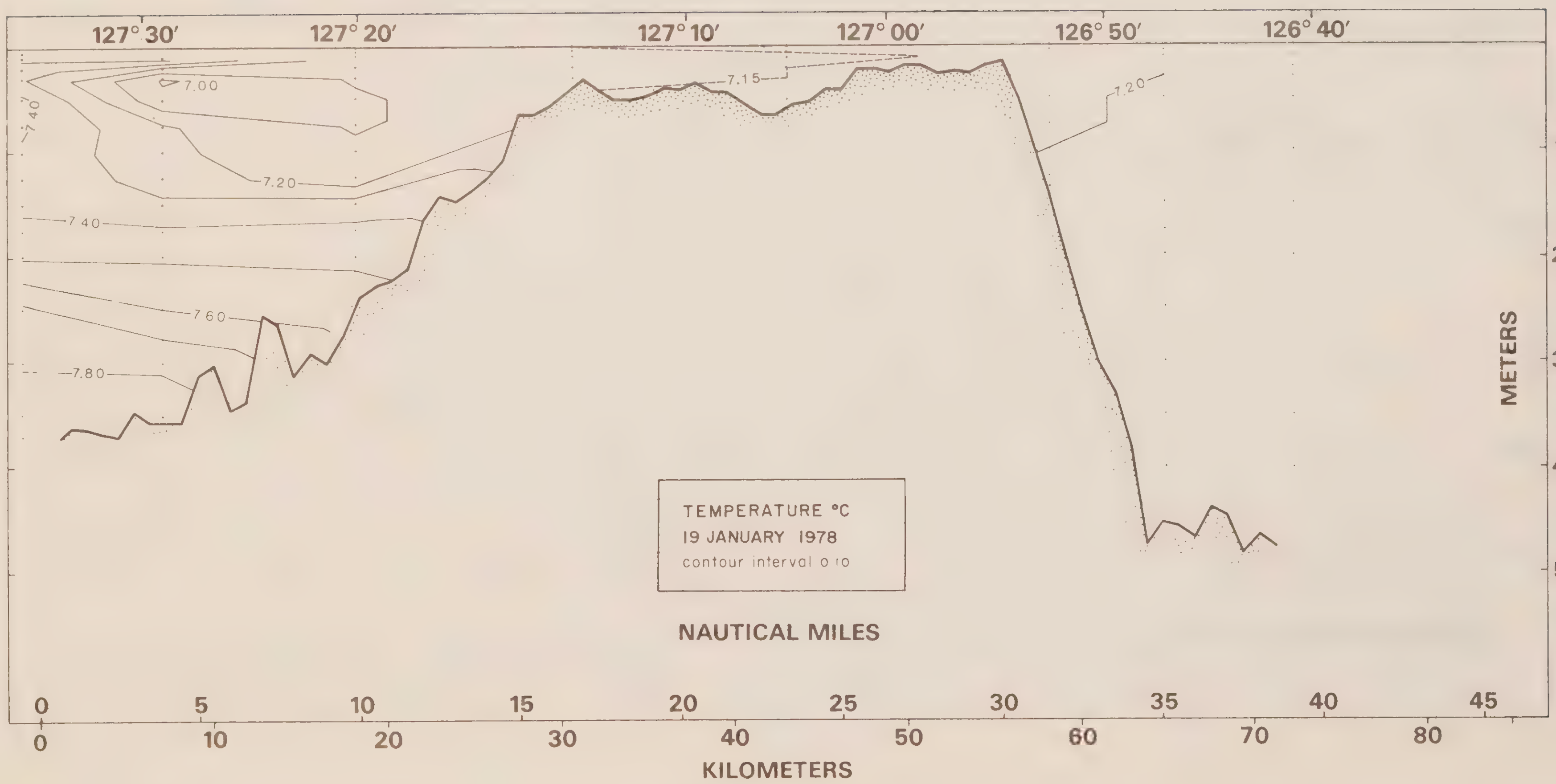


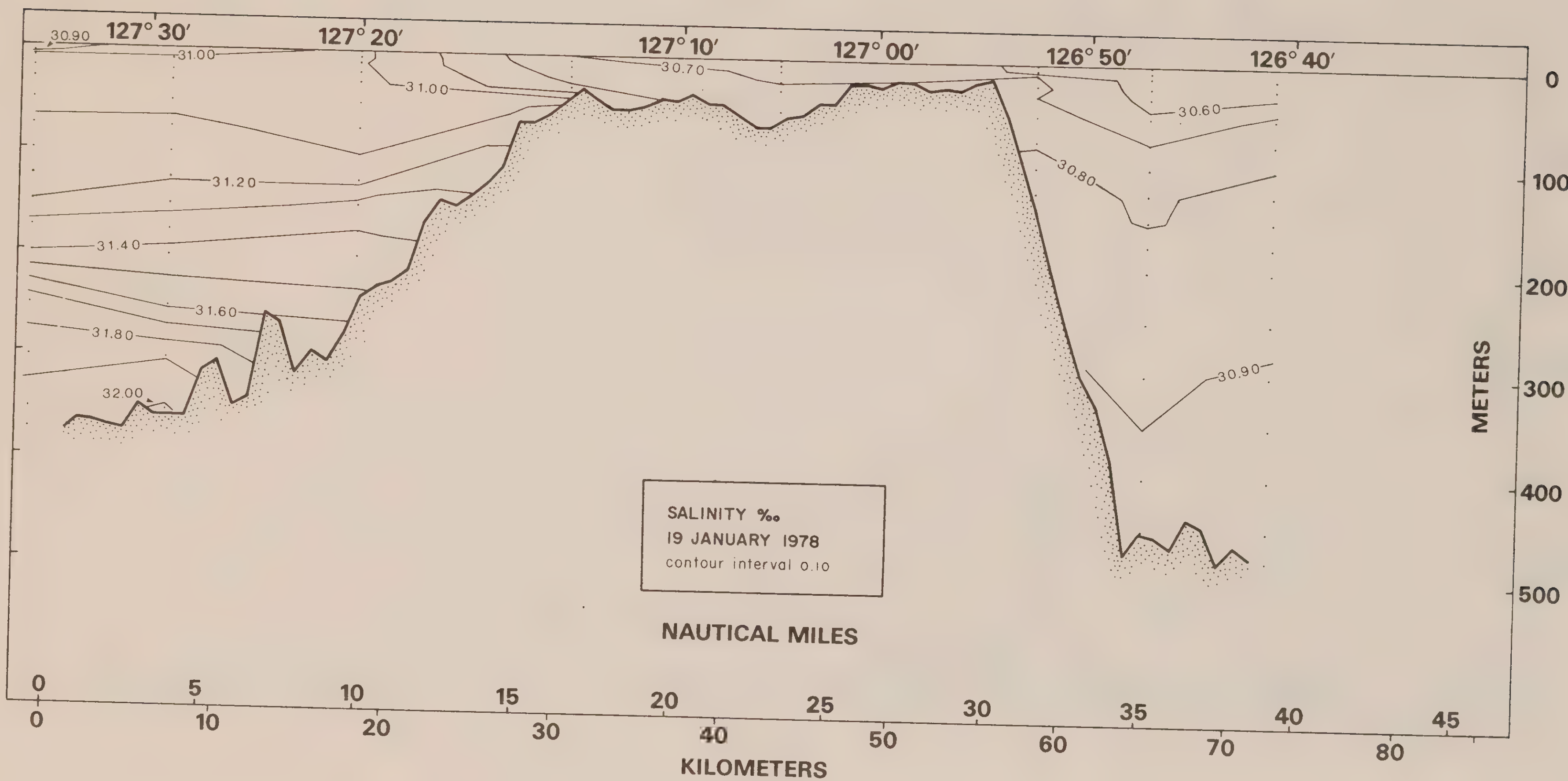
TEMPERATURE °C
January
contour interval 0.10
KILOMETRES
METRES
7.20
7.25
7.30
7.35
7.40
7.50
7.60
8.80
6.3
6.9
7.3
125° 10′
125° 20′
125° 40′
126° 00′
126° 20′
126° 40′

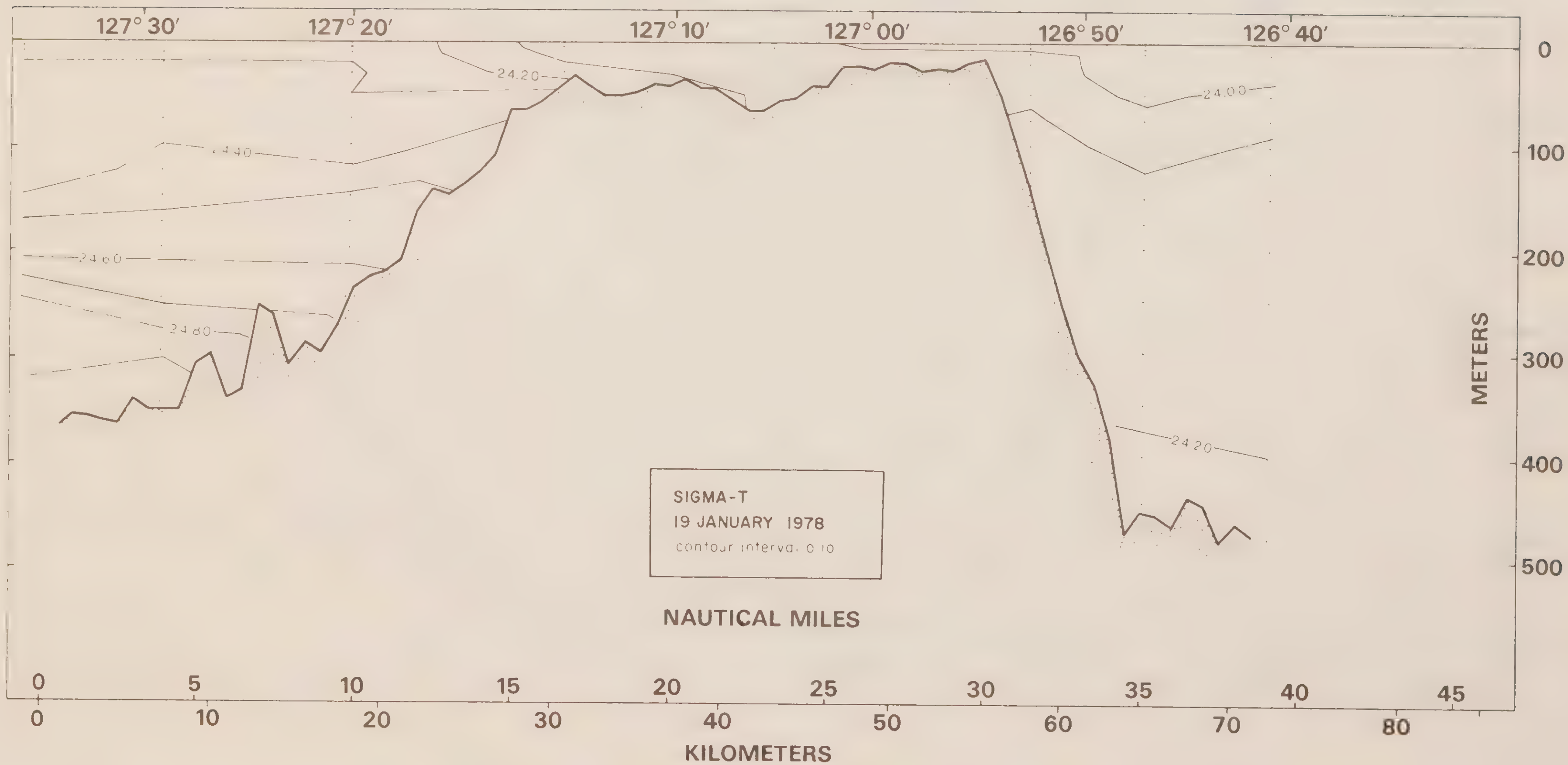

SALINITY ‰
January
contour interval 0.10
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
29.4
29.6
29.8
30.0
30.3
30.5
30.6
30.7
30.8
30.9
0
100
200
300
400
500
20
40
60
80
100
120
140
160

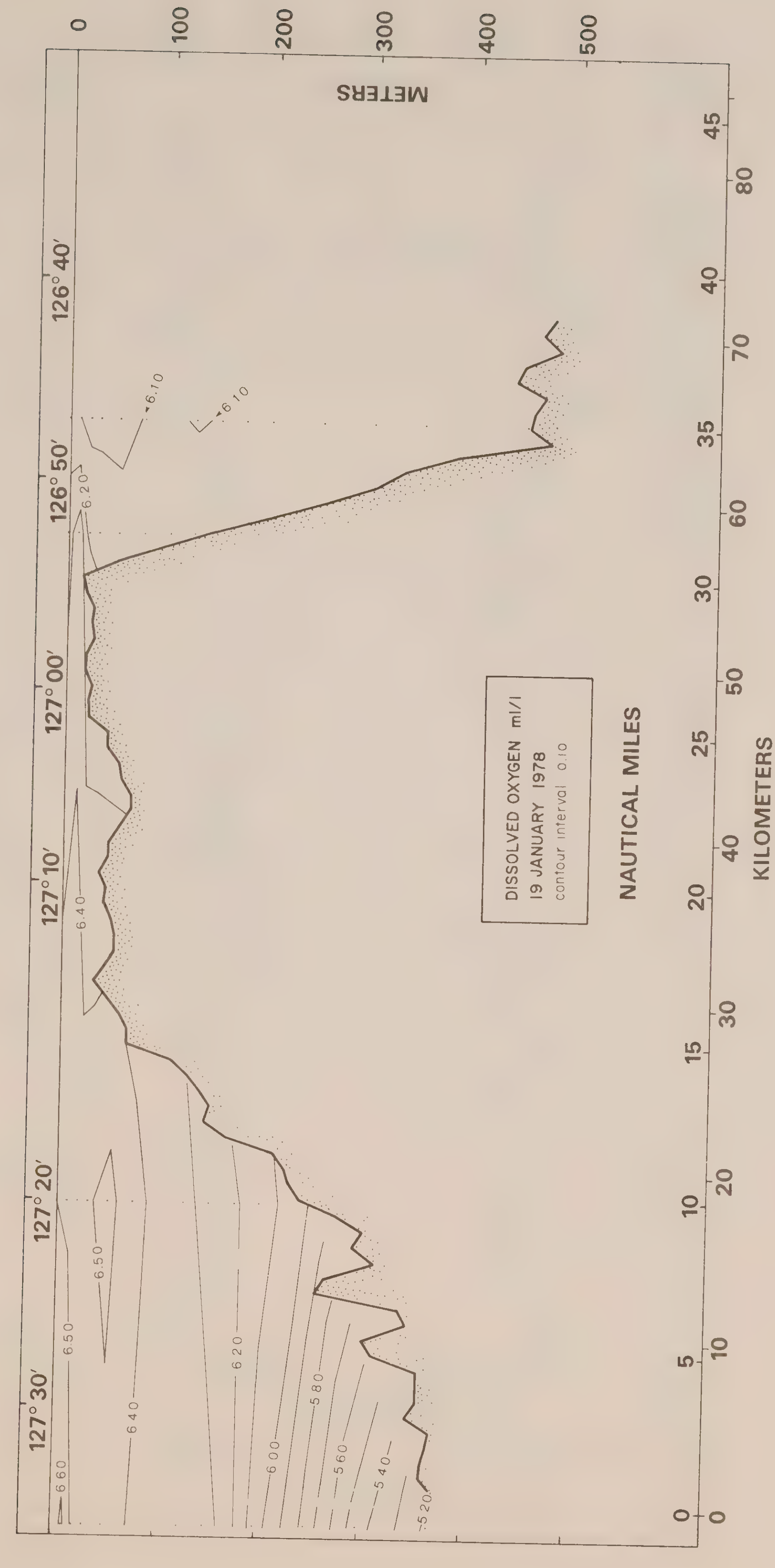

SIGMA-T
January
contour interval 0.10
KILOMETRES
METRES
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
22.9
23.0
23.1
23.2
23.4
23.6
23.9
24.0
24.1
24.0

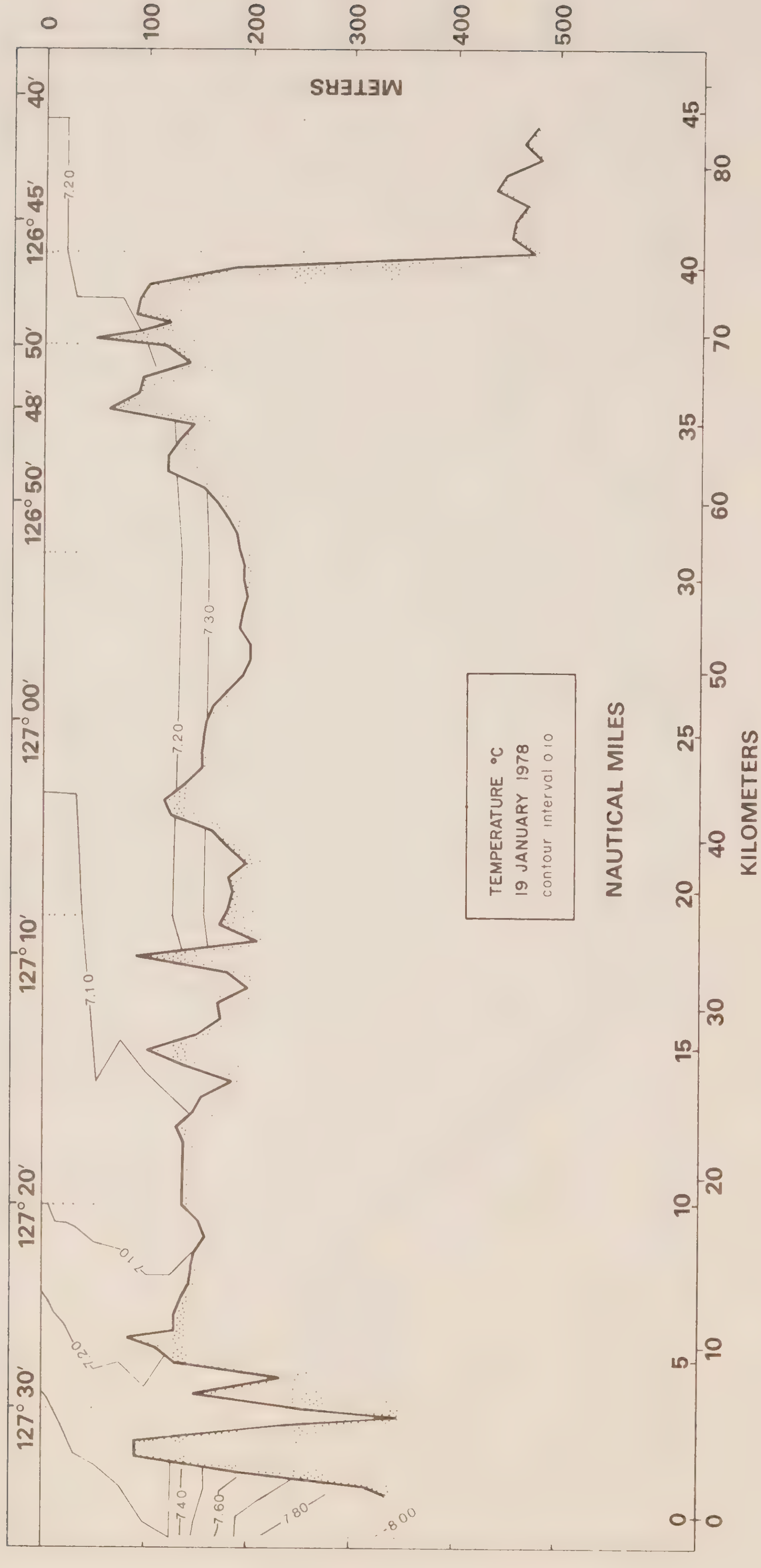

DISSOLVED OXYGEN ml/l
January
contour interval 0.10
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
4.9
5.1
5.2
5.4
5.6
5.8
5.9
6.0
6.1


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
0
100
200
300
400
500
METERS
7.00
7.15
7.20
7.40
7.60
7.80
TEMPERATURE °C
19 JANUARY 1978
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

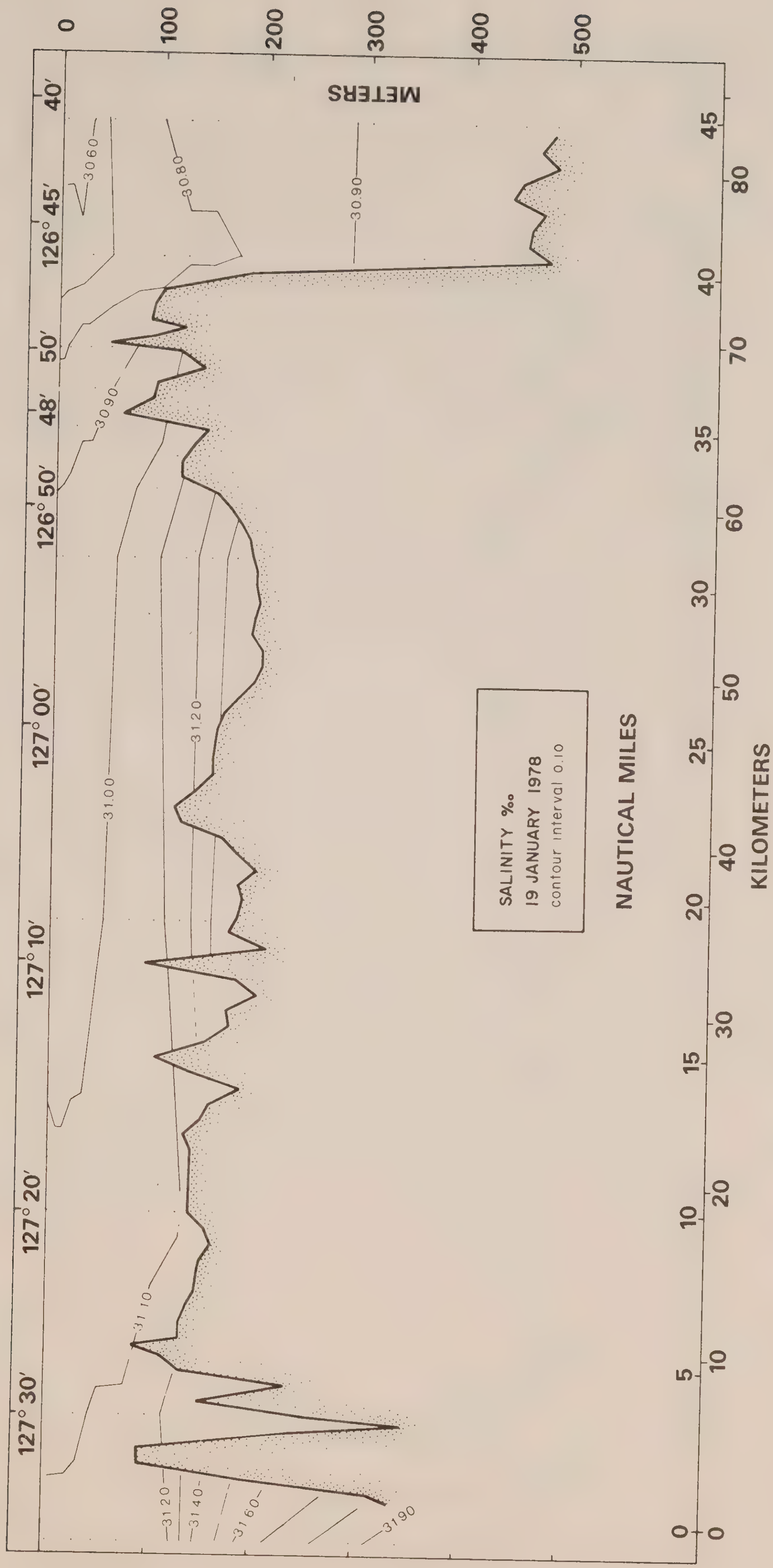

127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
30.90
31.00
31.00
30.70
30.60
30.80
31.20
31.40
31.60
31.80
32.00
30.90
0
100
200
300
400
500
METERS
SALINITY ‰
19 JANUARY 1978
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

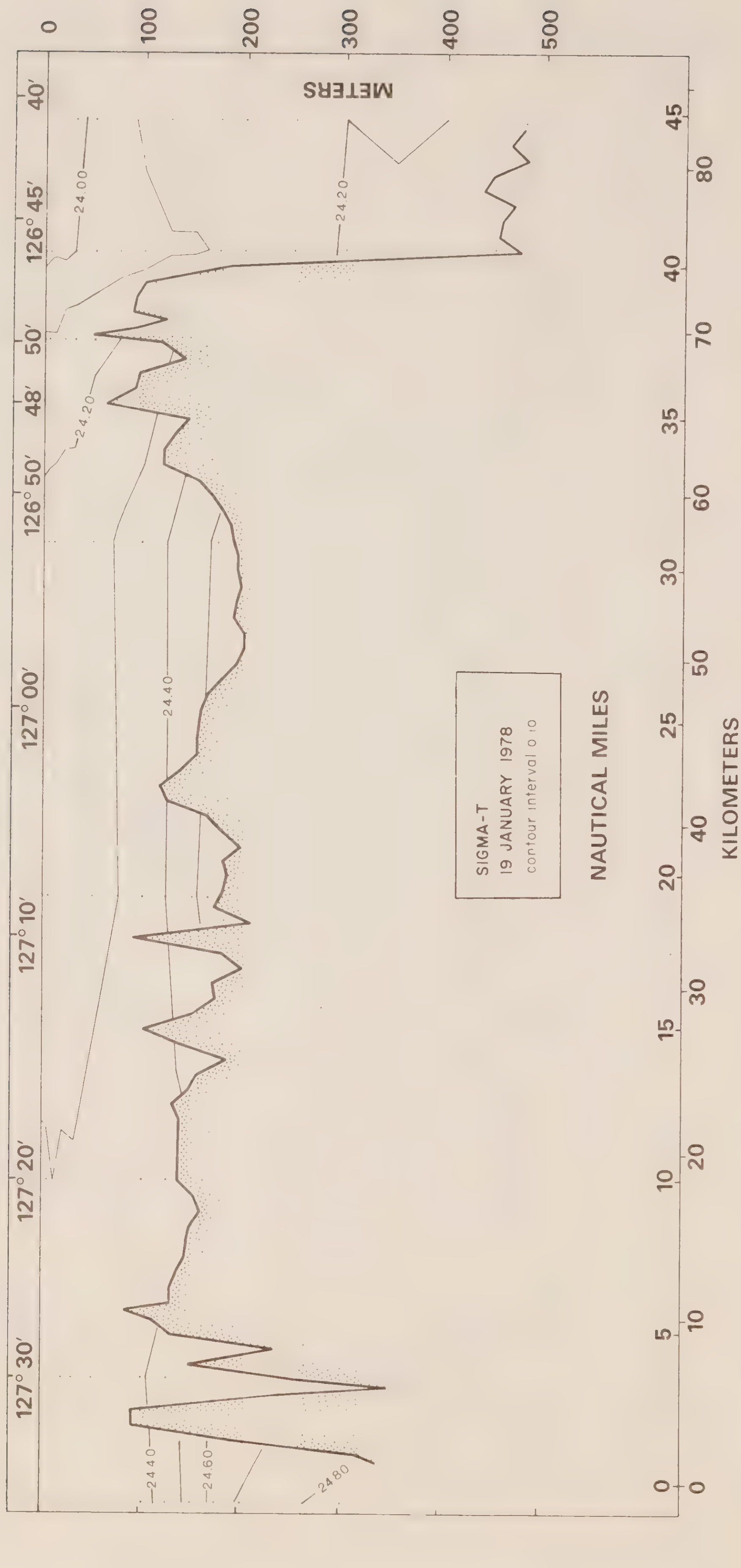

127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
126° 40′
24.20
24.00
24.20
24.60
24.80
0
100
200
300
400
500
METERS
SIGMA-T
19 JANUARY 1978
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS


DISSOLVED OXYGEN ml/l
19 JANUARY 1978
contour interval 0.10
NAUTICAL MILES
KILOMETERS
METERS
127°30′
127°20′
127°10′
127°00′
126°50′
126°40′
0
100
200
300
400
500
6.60
6.50
6.40
6.20
6.10
6.00
5.80
5.60
5.40
5.20

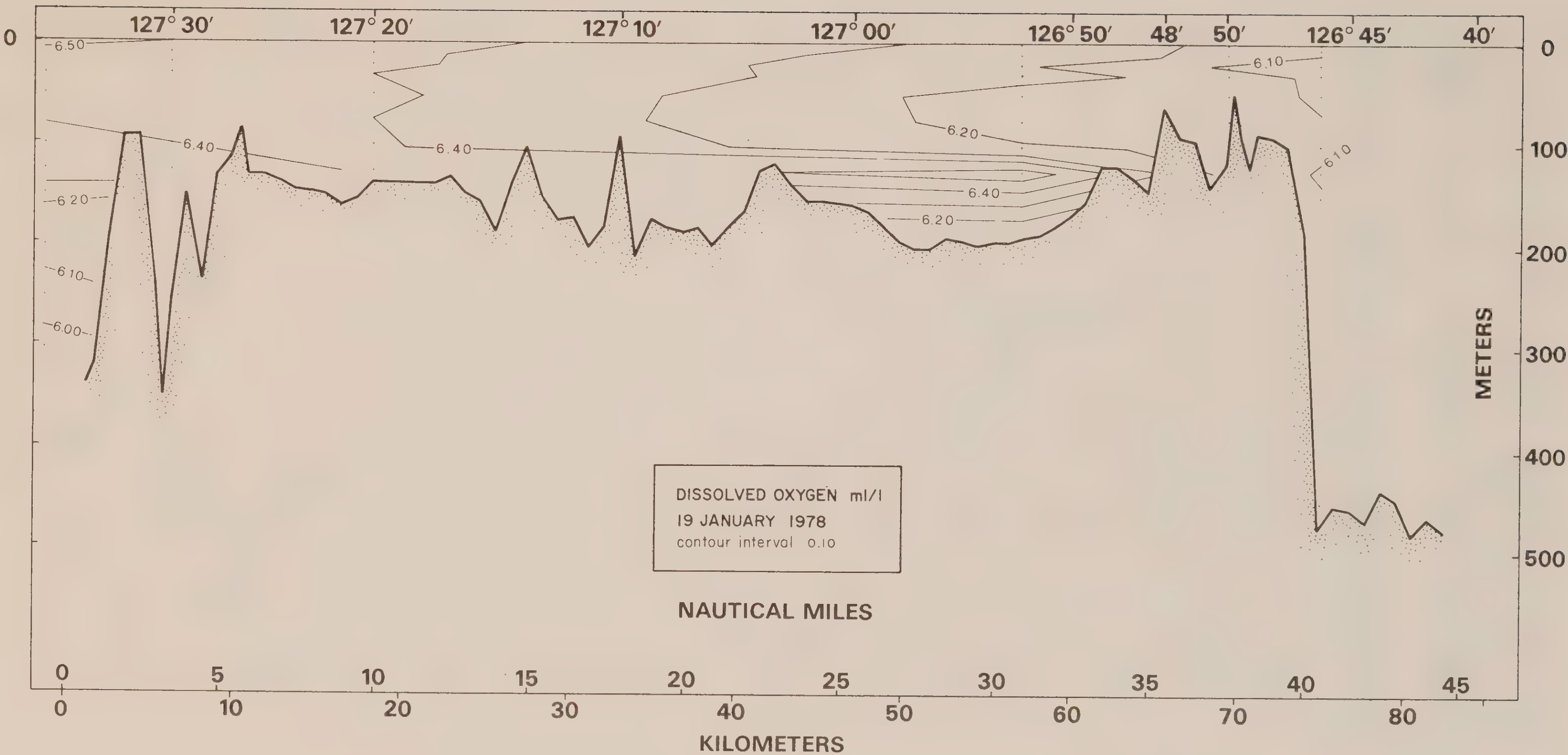


TEMPERATURE °C
19 JANUARY 1978
contour interval 0.10
NAUTICAL MILES
KILOMETERS
METERS
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
0
100
200
300
400
500
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
7.10
7.20
7.30
7.40
7.60
7.80
8.00


SALINITY ‰
19 JANUARY 1978
contour interval 0.10
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
METERS
0
100
200
300
400
500
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
KILOMETERS
0
10
20
30
40
50
60
70
80
31.90
31.60
31.40
31.20
31.10
31.00
30.90
30.80
30.60



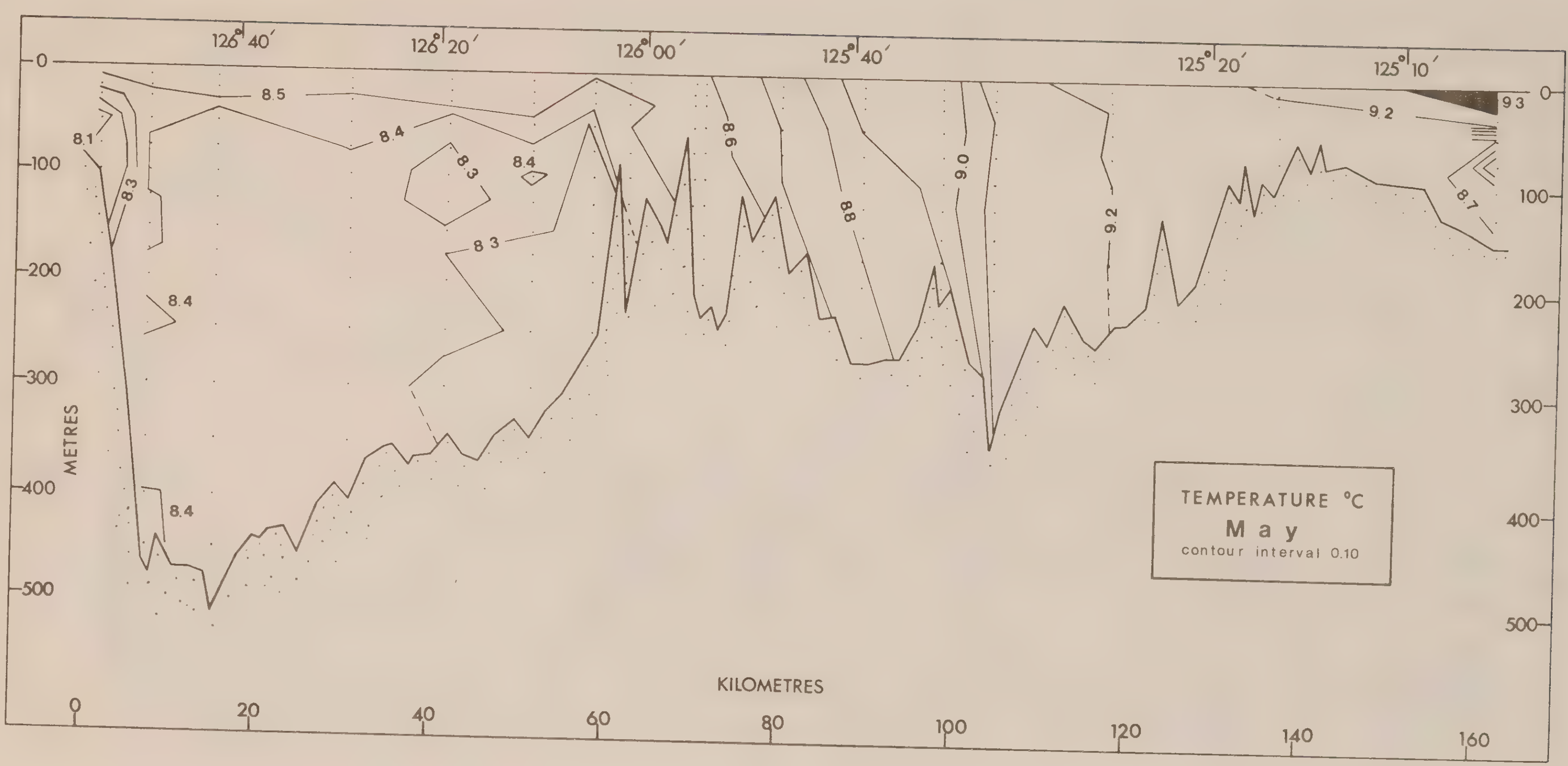
SIGMA-T
19 JANUARY 1978
contour interval 0.10
METERS
NAUTICAL MILES
KILOMETERS
127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
24.00
24.20
24.40
24.60
24.80


127° 30′
127° 20′
127° 10′
127° 00′
126° 50′
48′
50′
126° 45′
40′
6.50
6.40
6.20
6.10
6.00
6.40
6.20
6.40
6.20
6.10
6.10
0
100
200
300
400
500
METERS
DISSOLVED OXYGEN ml/l
19 JANUARY 1978
contour interval 0.10
NAUTICAL MILES
0
5
10
15
20
25
30
35
40
45
0
10
20
30
40
50
60
70
80
KILOMETERS

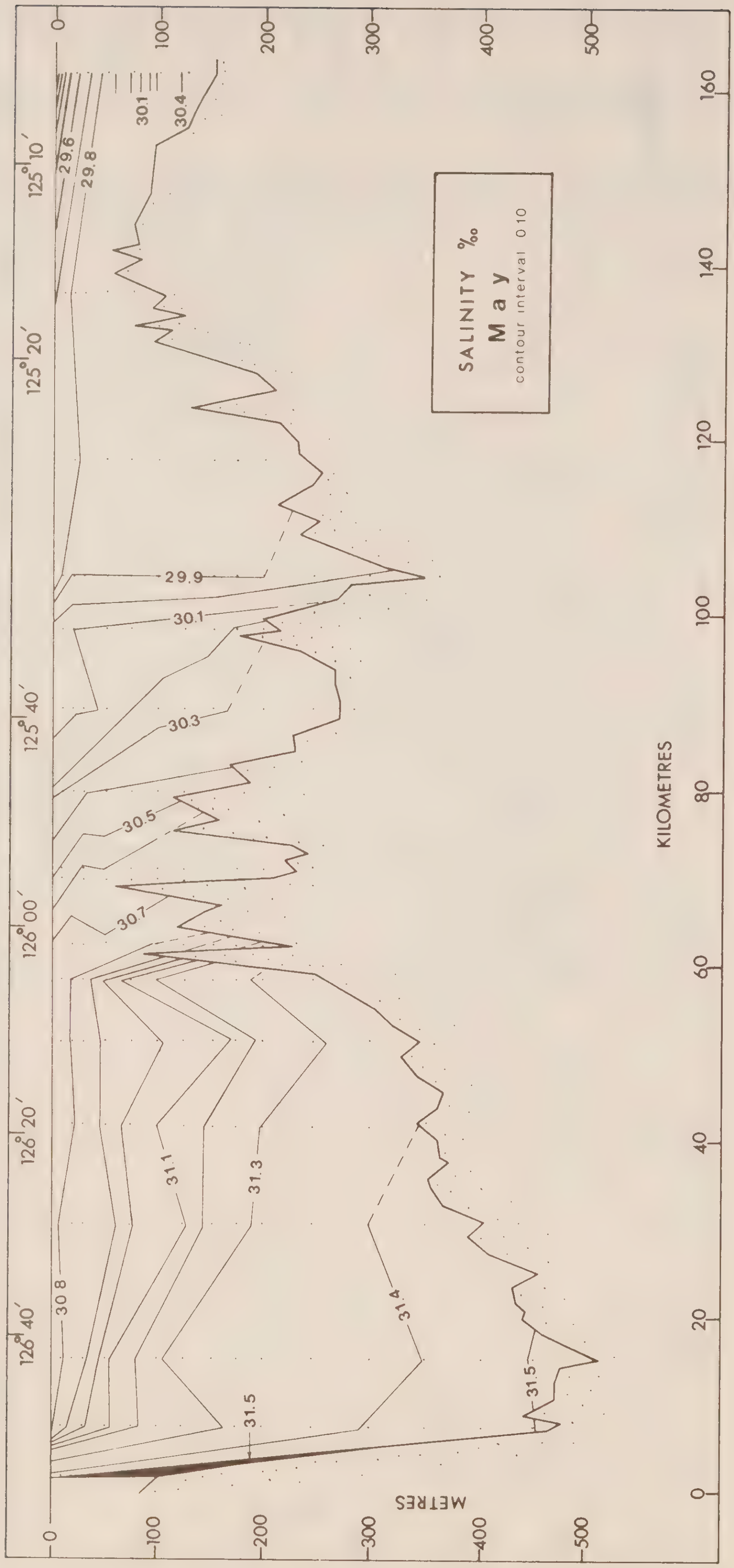
## 3.10 Cruise 78-15 (May 1978)

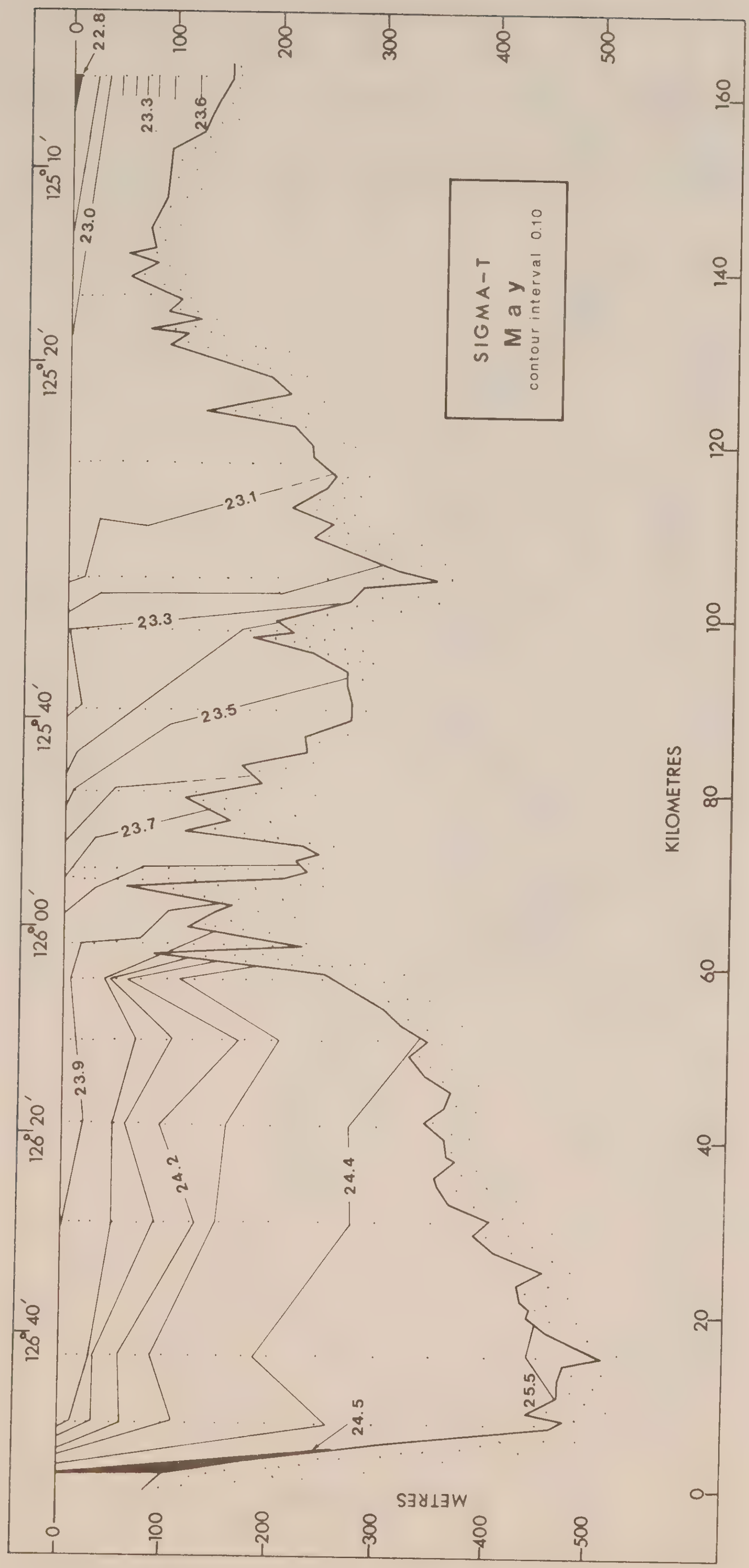
Mid-channel sections of temperature, salinity, sigma-t and dissolved oxygen.

Plots presented are for Johnstone Strait - Discovery Passage only. No nutrient data were collected during this cruise.

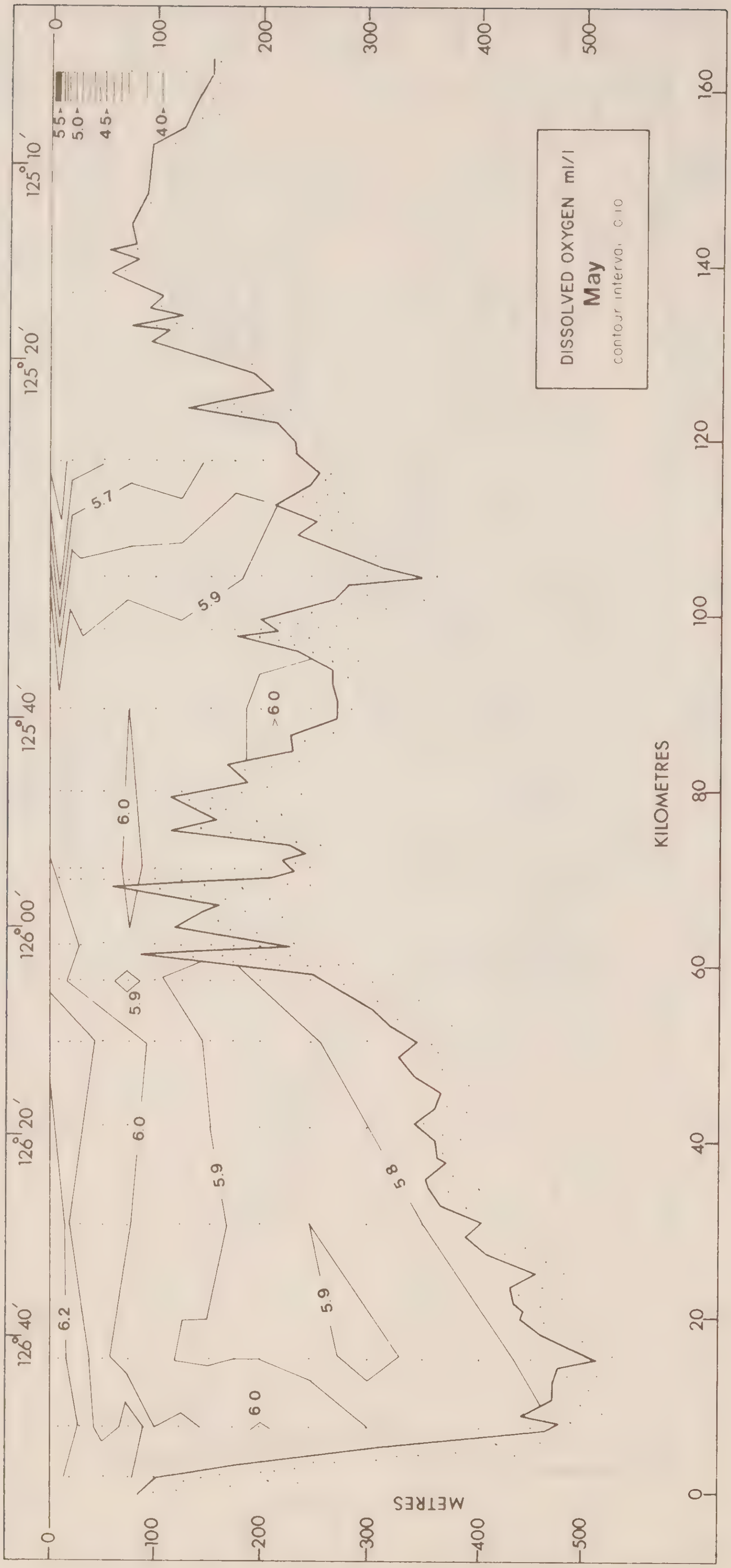


TEMPERATURE °C
May
contour interval 0.10
126°40′
126°20′
126°00′
125°40′
125°20′
125°10′
METRES
KILOMETRES
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160
8.1
8.3
8.4
8.5
8.6
8.7
8.8
9.0
9.2
9.3


SALINITY ‰
May
contour interval 0.10
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
29.6
29.8
29.9
30.1
30.3
30.4
30.5
30.7
30.8
31.1
31.3
31.4
31.5
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160



SIGMA-T
May
contour interval 0.10
KILOMETRES
METRES
125° 10´
125° 20´
125° 40´
126° 00´
126° 20´
126° 40´
22.8
23.0
23.1
23.3
23.5
23.6
23.7
23.9
24.2
24.4
24.5
25.5
0
20
40
60
80
100
120
140
160
100
200
300
400
500

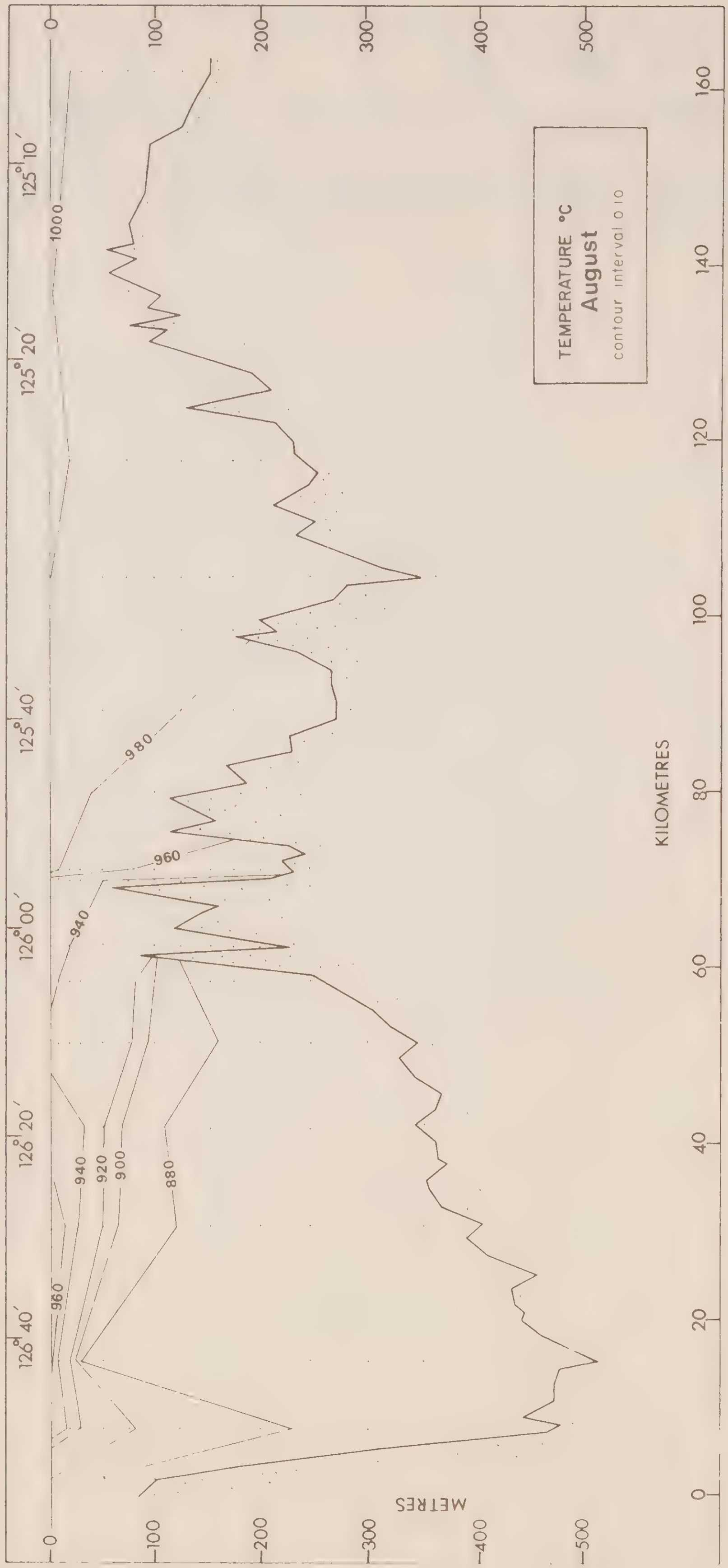


DISSOLVED OXYGEN ml/l
May
contour interval 0.10
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
0
100
200
300
400
500
20
40
60
80
100
120
140
160
5.5
5.0
4.5
4.0
5.7
5.9
>6.0
6.0
5.8
6.2

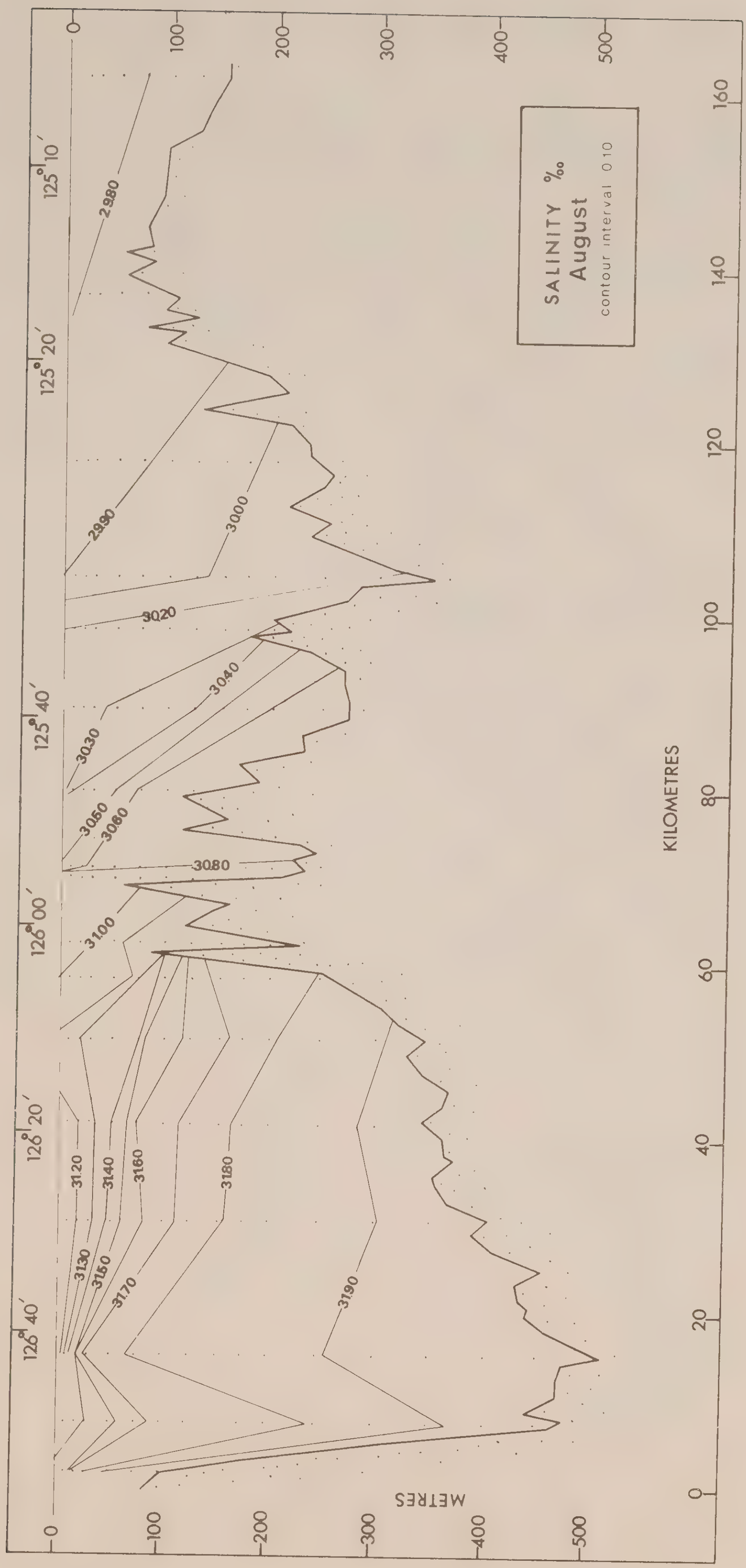
## 3.11 Cruise 79-14 (August 1979)

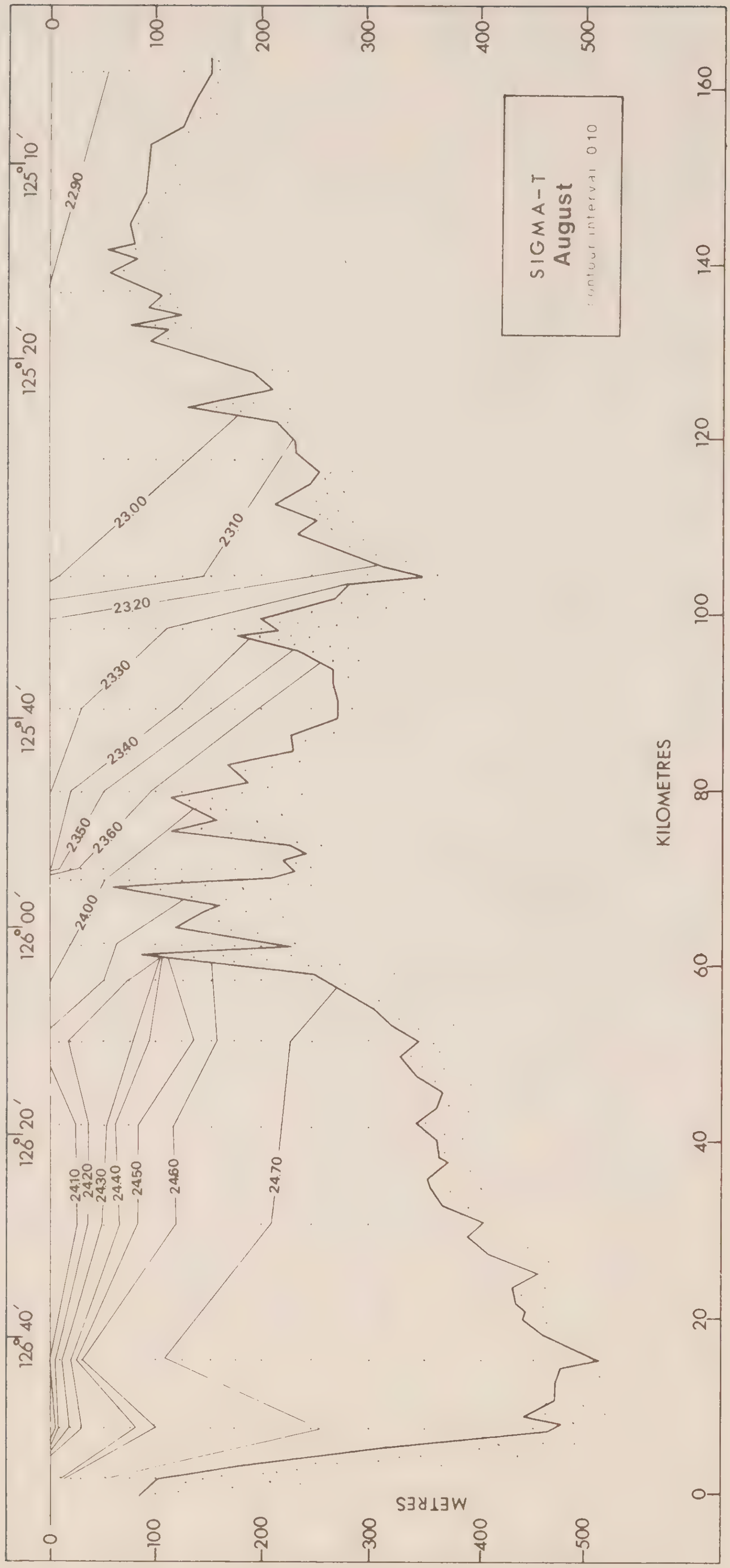
Mid-channel sections of temperature, salinity, and sigma-t.

Plots presented are for Johnstone Strait - Discovery Passage only. A dissolved oxygen section is not included but data are available from Appendix C.



TEMPERATURE °C
August
contour interval 0.10
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
1000
980
960
940
920
900
880
0
100
200
300
400
500
20
40
60
80
100
120
140
160


SALINITY ‰
August
contour interval 0.10
KILOMETRES
METRES
0
100
200
300
400
500
0
20
40
60
80
100
120
140
160
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
29.80
29.90
30.00
30.20
30.30
30.40
30.50
30.60
30.80
31.00
31.20
31.30
31.40
31.50
31.60
31.70
31.80
31.90

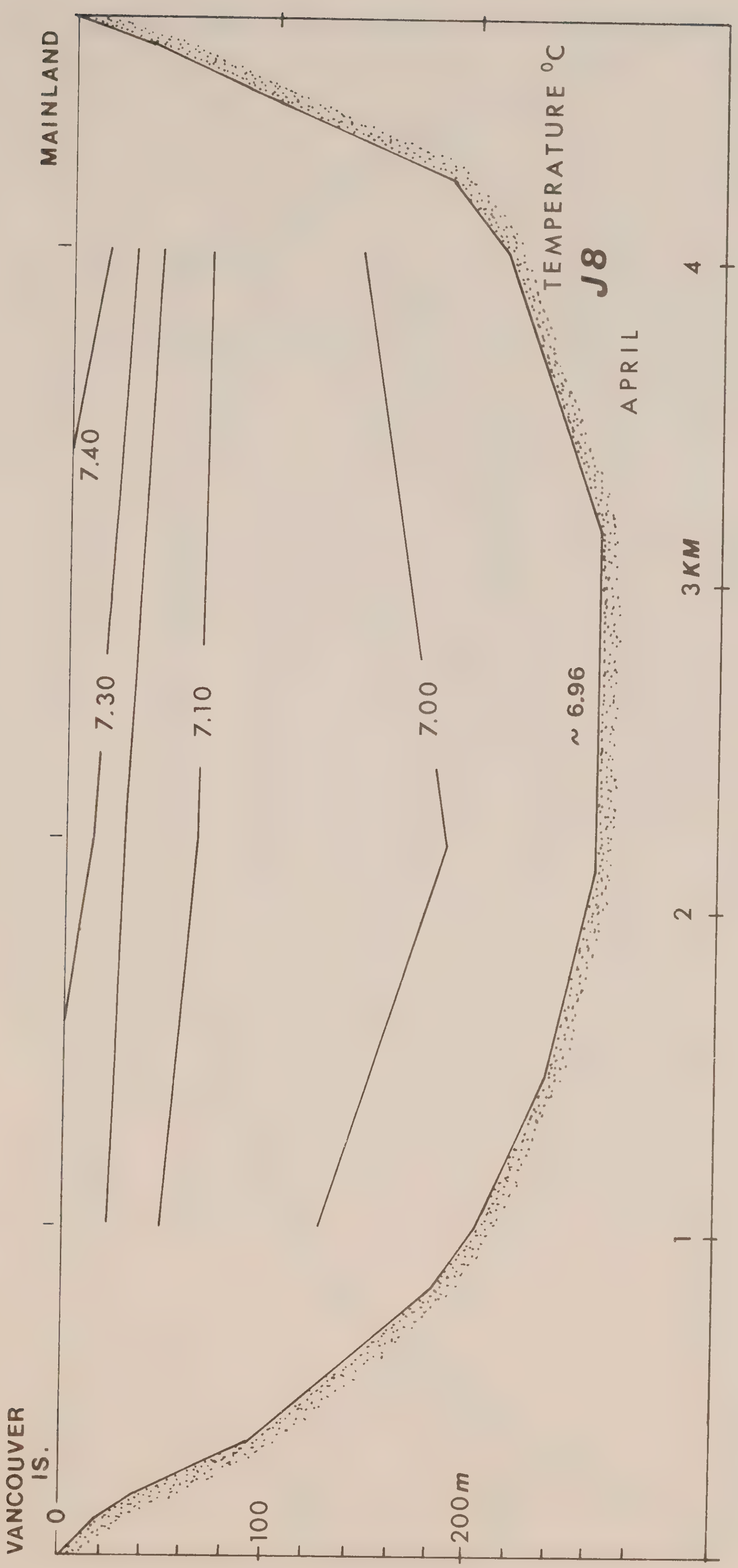

SIGMA-T
August
contour interval 0.10
KILOMETRES
METRES
125°10′
125°20′
125°40′
126°00′
126°20′
126°40′
22.90
23.00
23.10
23.20
23.30
23.40
23.50
23.60
24.00
24.10
24.20
24.30
24.40
24.50
24.60
24.70
0
20
40
60
80
100
120
140
160
0
100
200
300
400
500

4. Cross-channel sections

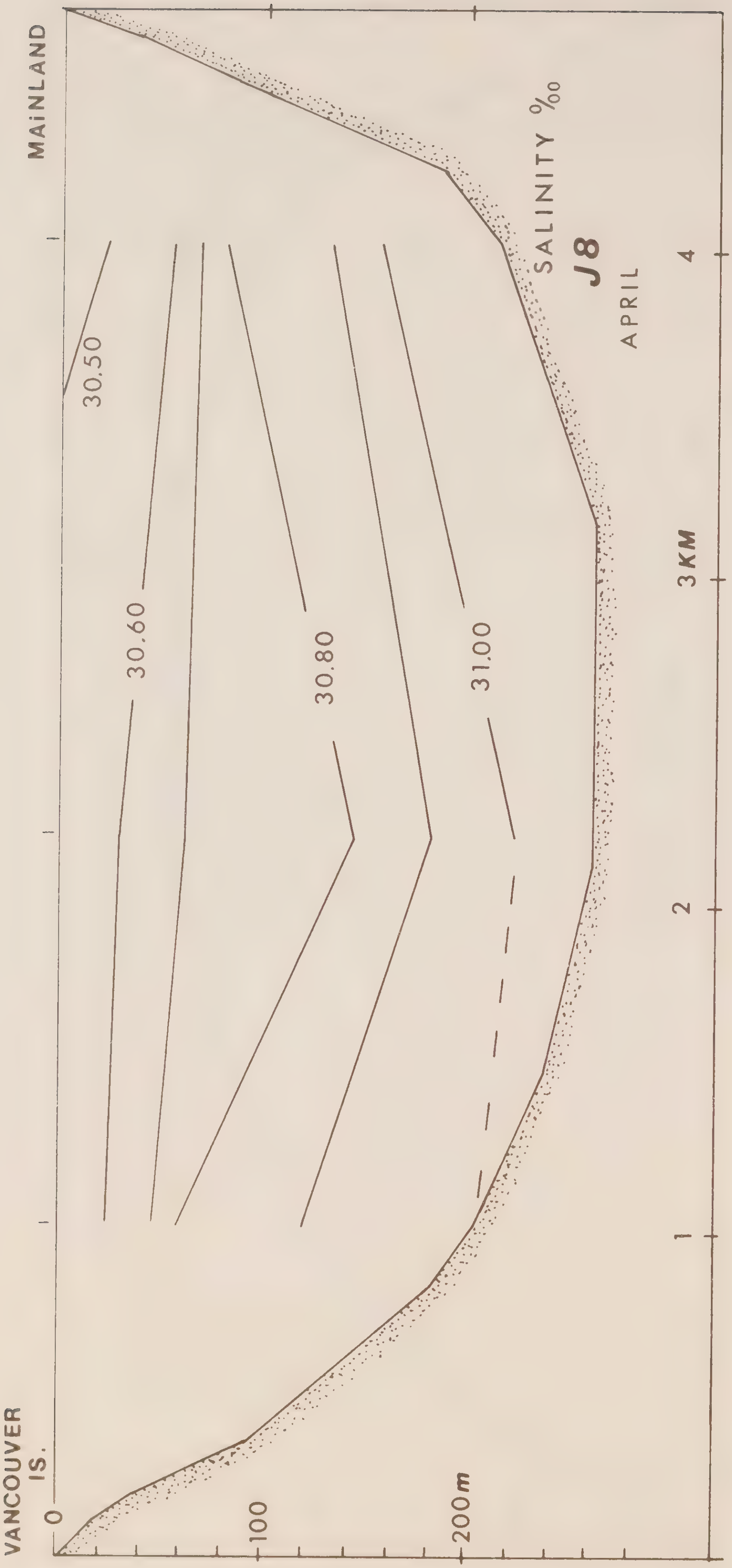
This section contains plots of cross-channel water property distributions for the April and June, 1976 surveys of the inside passage. Each plot is based on three stations taken within a period of about one hour apart. Additional information on cross-channel structure may be derived from certain time-series stations consisting of more than one station taken simultaneously (see Appendix B). Data plotted here are temperature, salinity and sigma-t. Cross-channel dissolved oxygen data are available only for the three J11 stations.

## 4.1 Cruise 76-20 (April 1976)

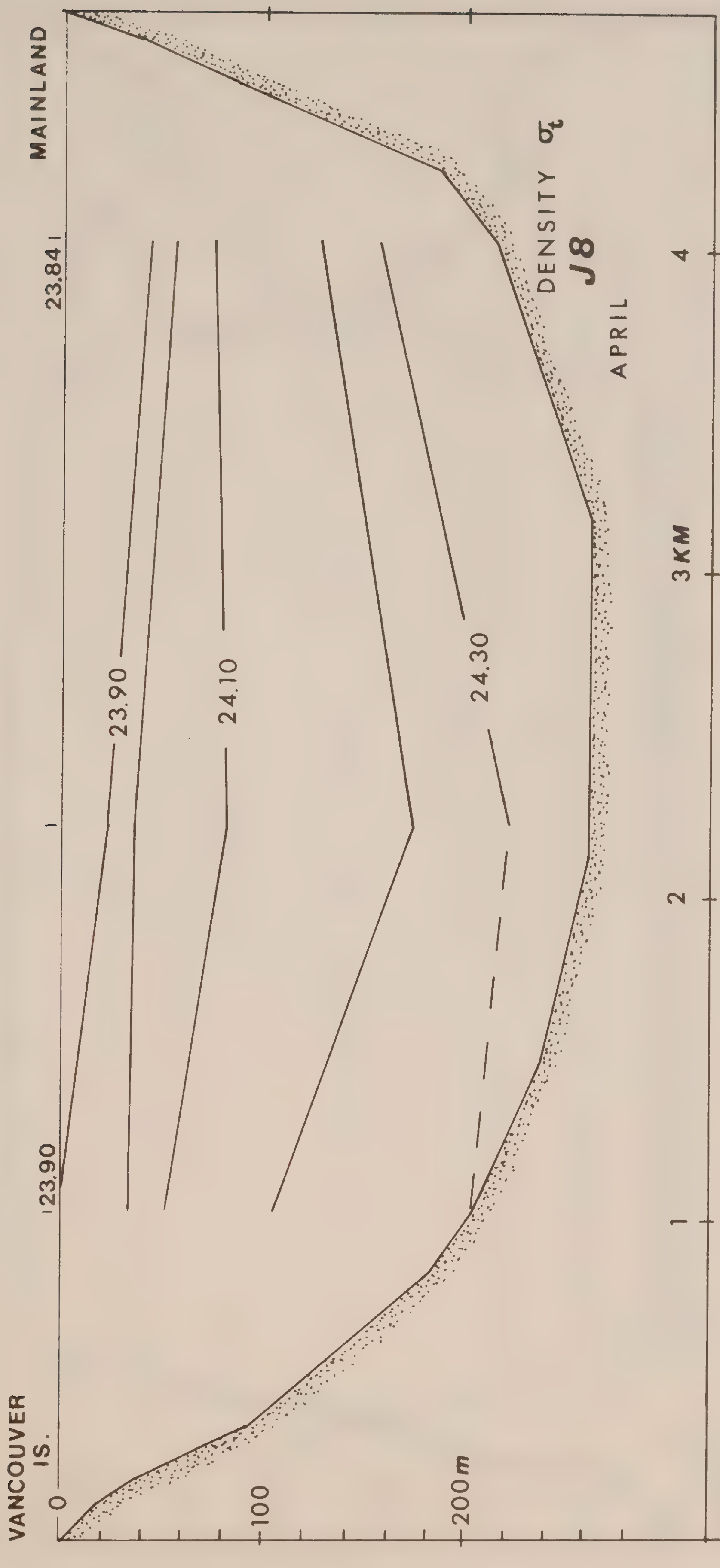
Cross-channel sections of temperature ($^{o}C$), salinity ($^{o}/oo$) and density (sigma-t) in Johnstone Strait during April 1976. Observations cover the period from 24 April (STN J13) to 26 April (STN J8).



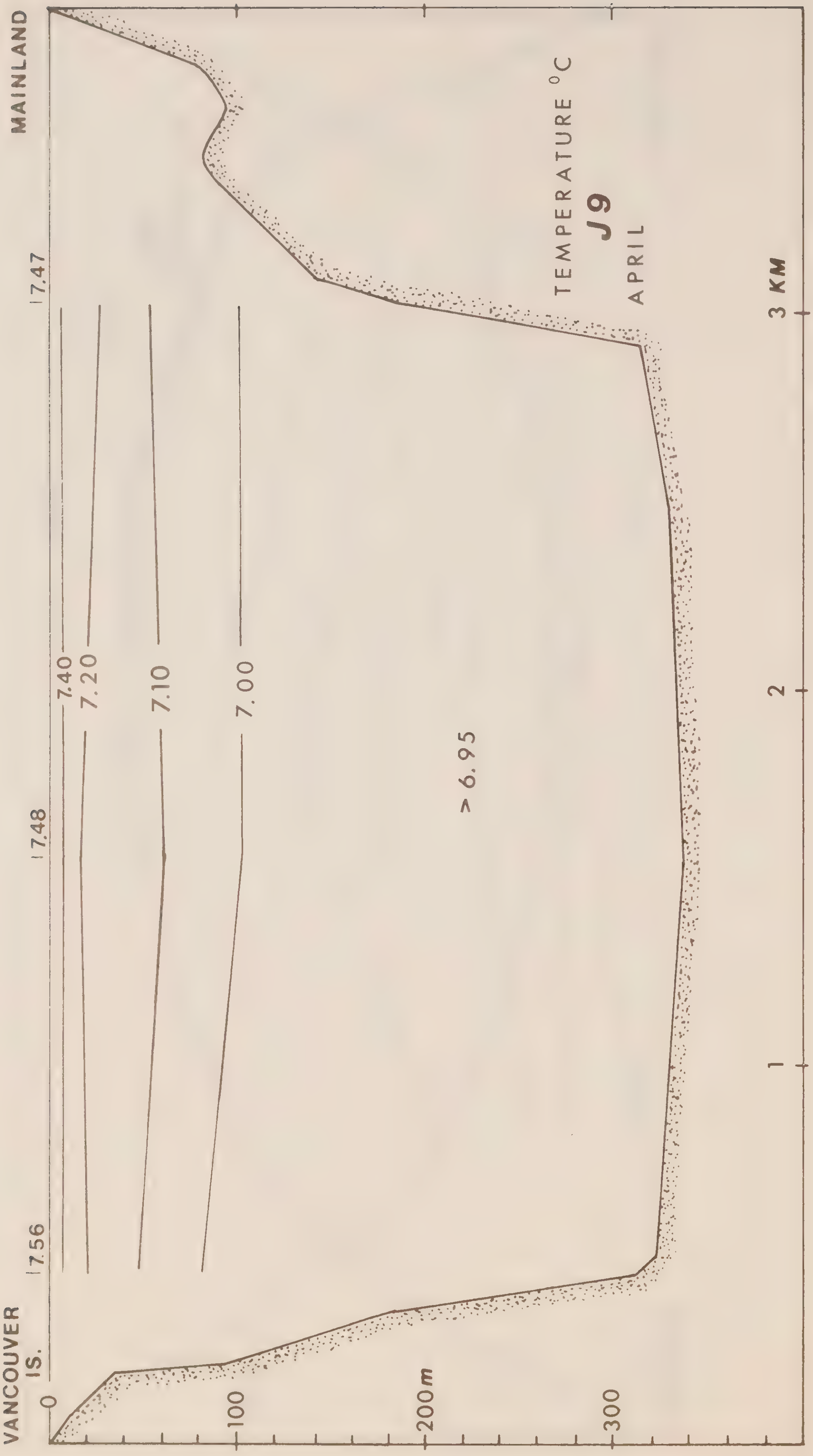
MAINLAND
VANCOUVER IS.
TEMPERATURE °C
J8
APRIL
7.40
7.30
7.10
7.00
~ 6.96
0
100
200m
1
2
3KM
4

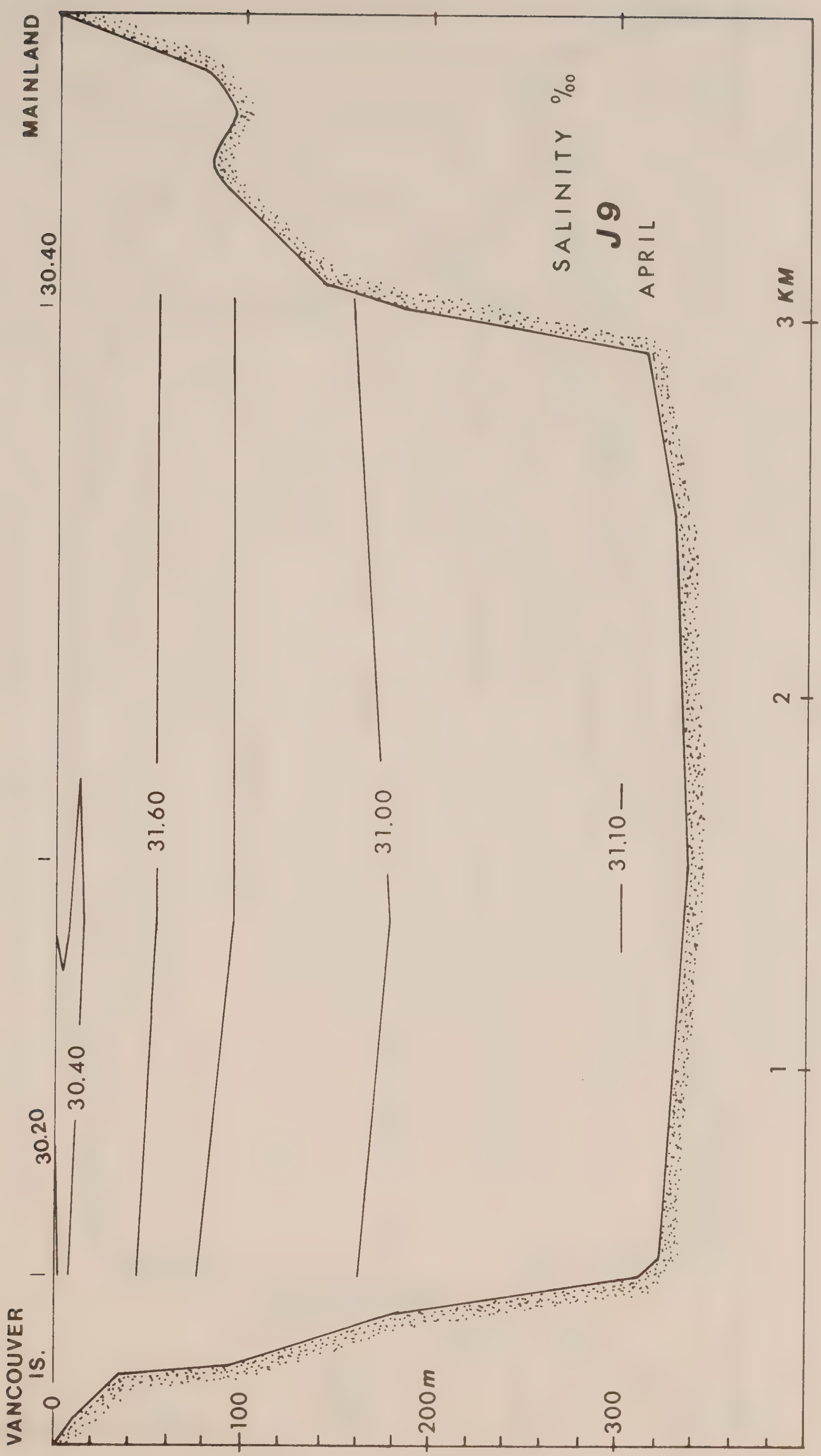


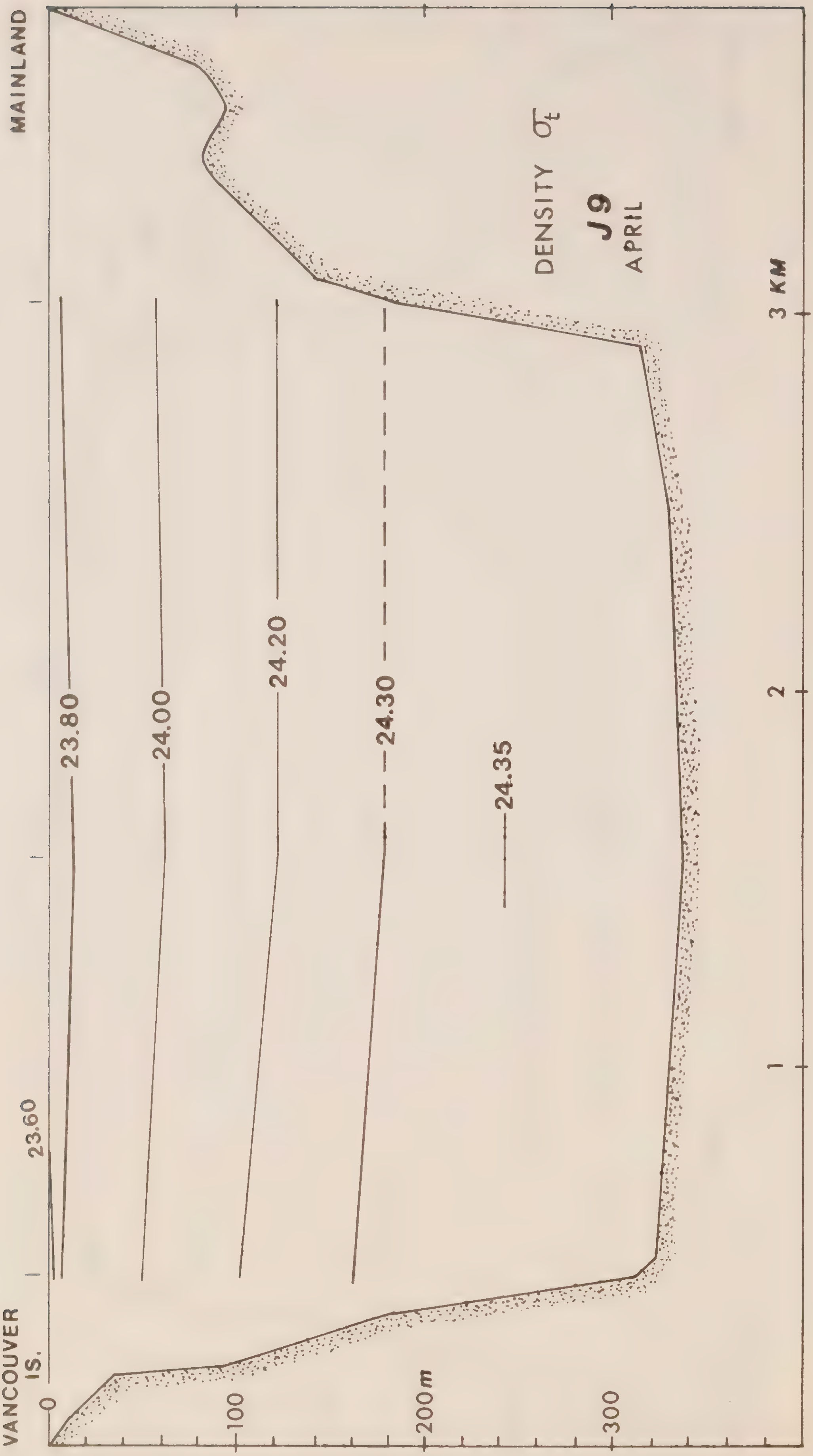
MAINLAND
VANCOUVER IS.
SALINITY ‰
J8
APRIL
30.50
30.60
30.80
31.00
0
100
200m
1
2
3KM
4

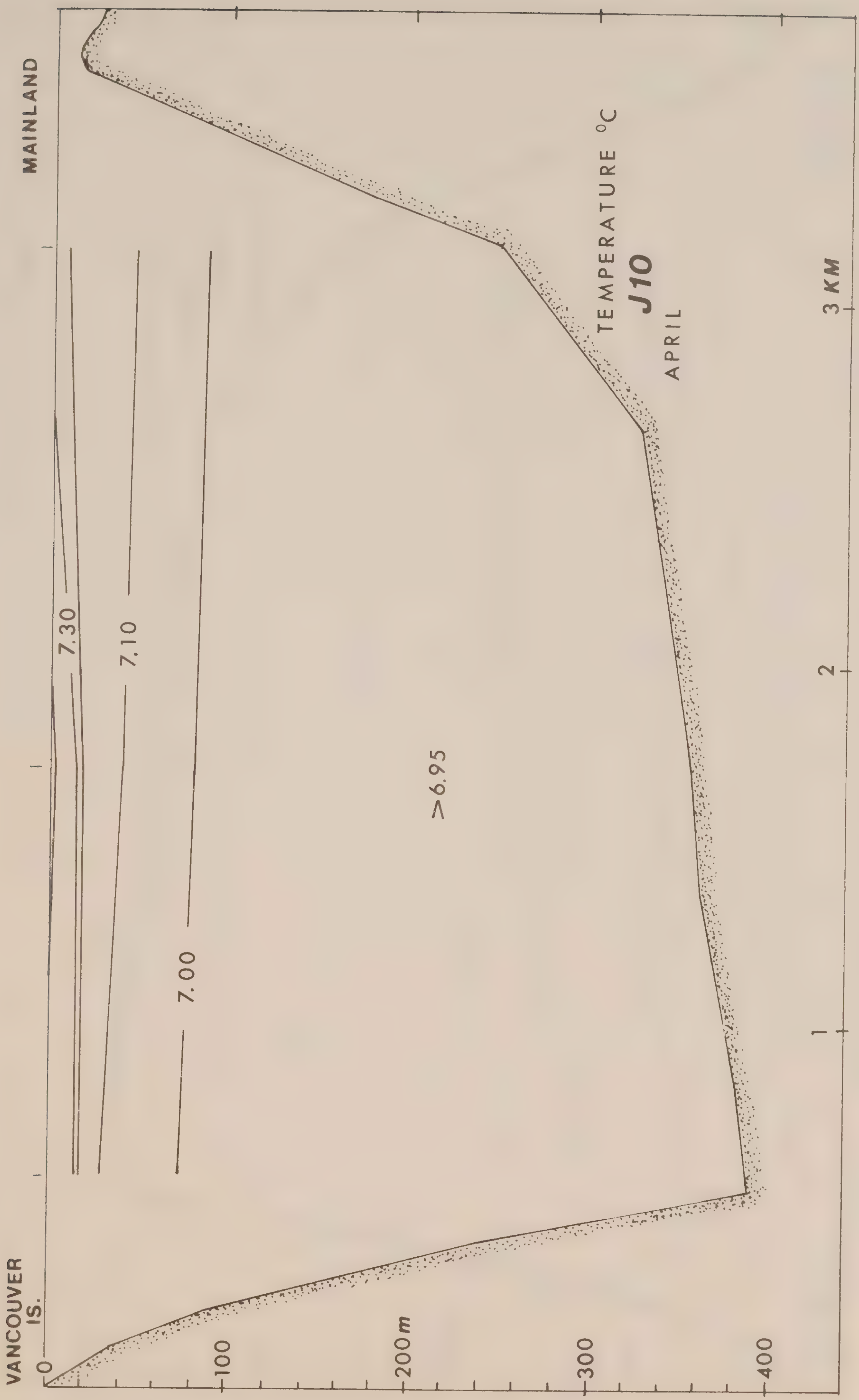


VANCOUVER IS.
MAINLAND
23.84
23.90
23.90
24.10
24.30
DENSITY $\sigma_t$
J8
APRIL
0
100
200m
1
2
3KM
4

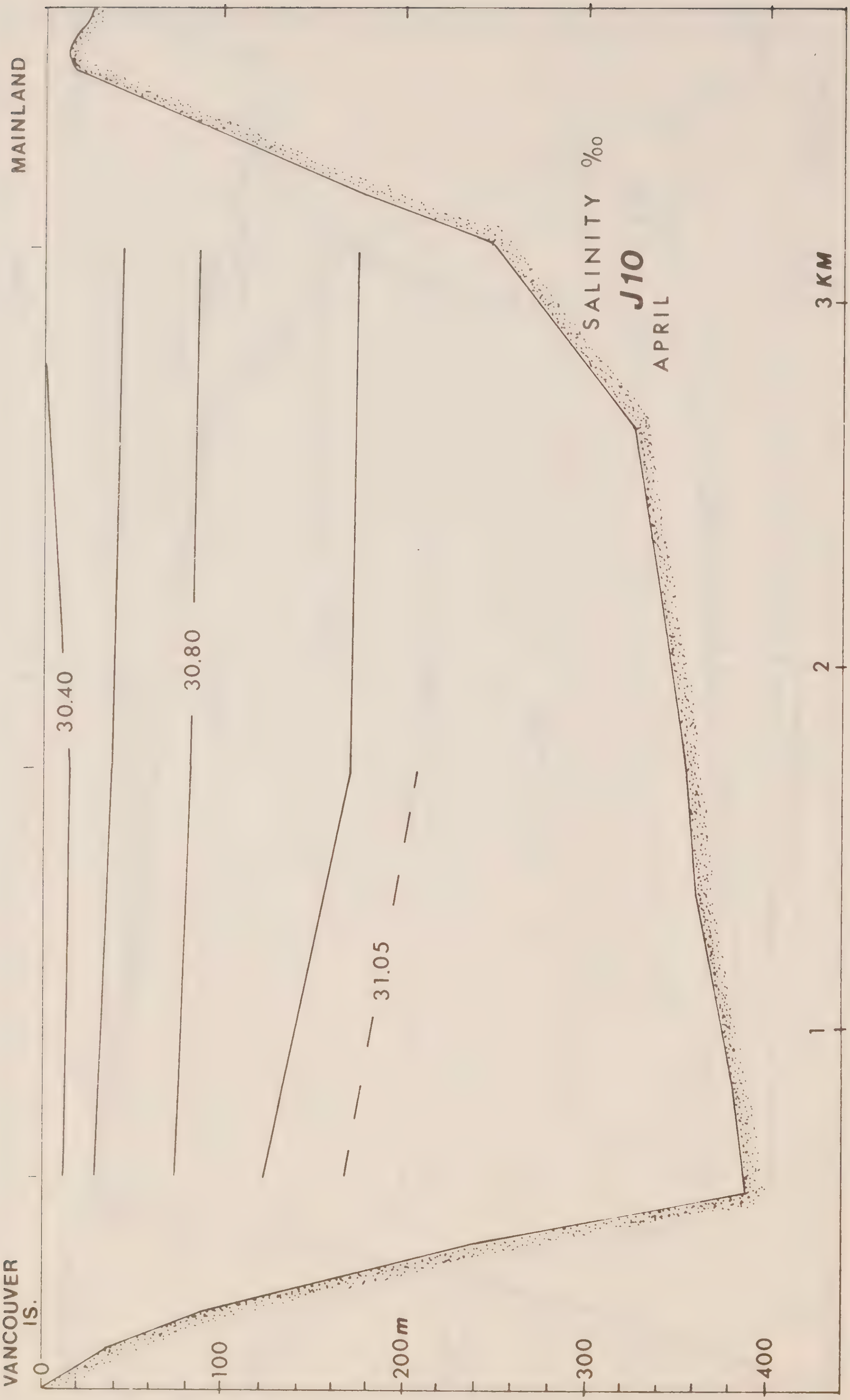

MAINLAND
VANCOUVER IS.
TEMPERATURE °C
J9
APRIL
17.47
17.48
17.56
7.40
7.20
7.10
7.00
> 6.95
0
100
200m
300
1
2
3 KM

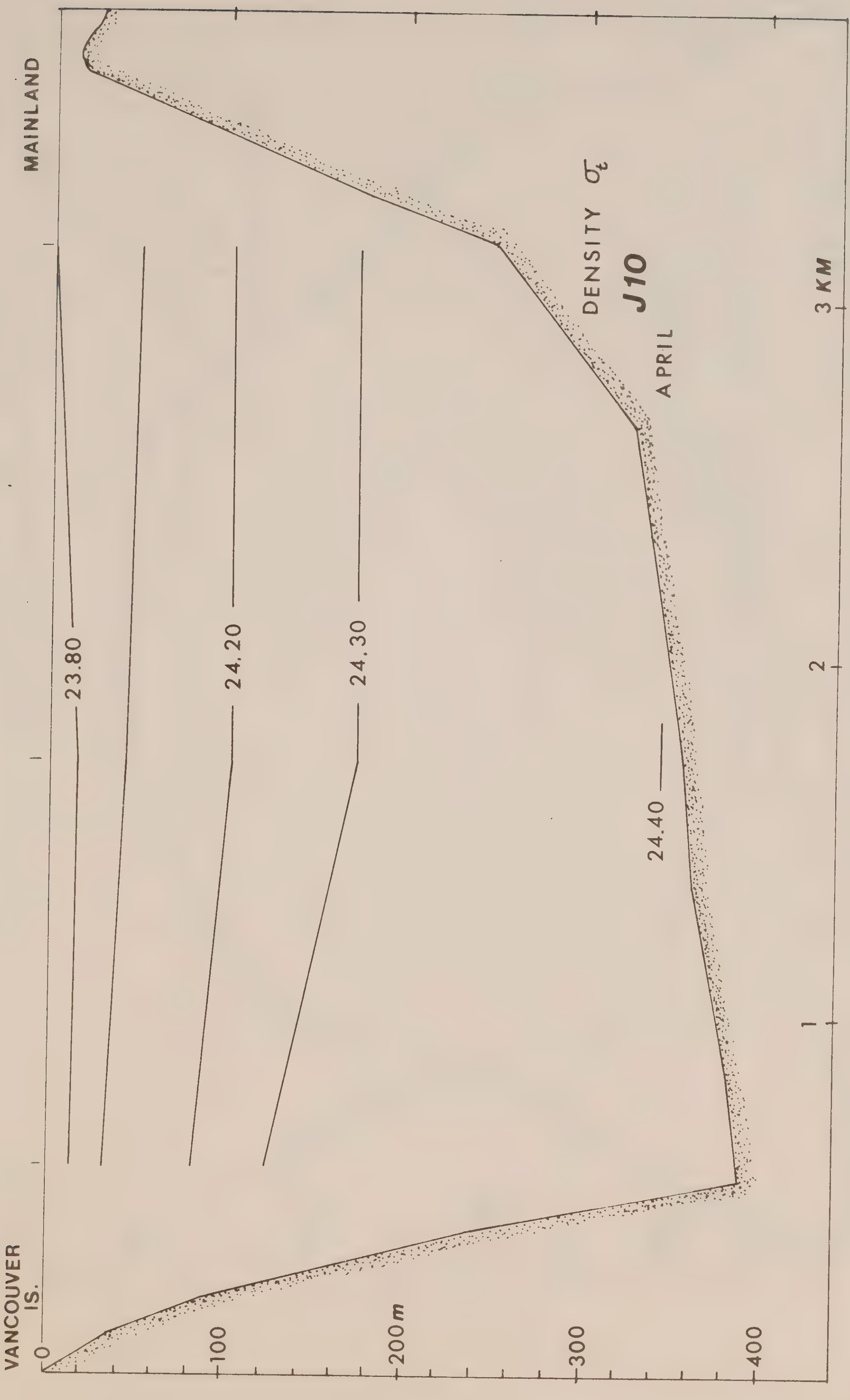

VANCOUVER IS.
MAINLAND
SALINITY ‰
J9
APRIL
30.20
30.40
30.40
31.60
31.00
31.10
0
100
200m
300
1
2
3 KM

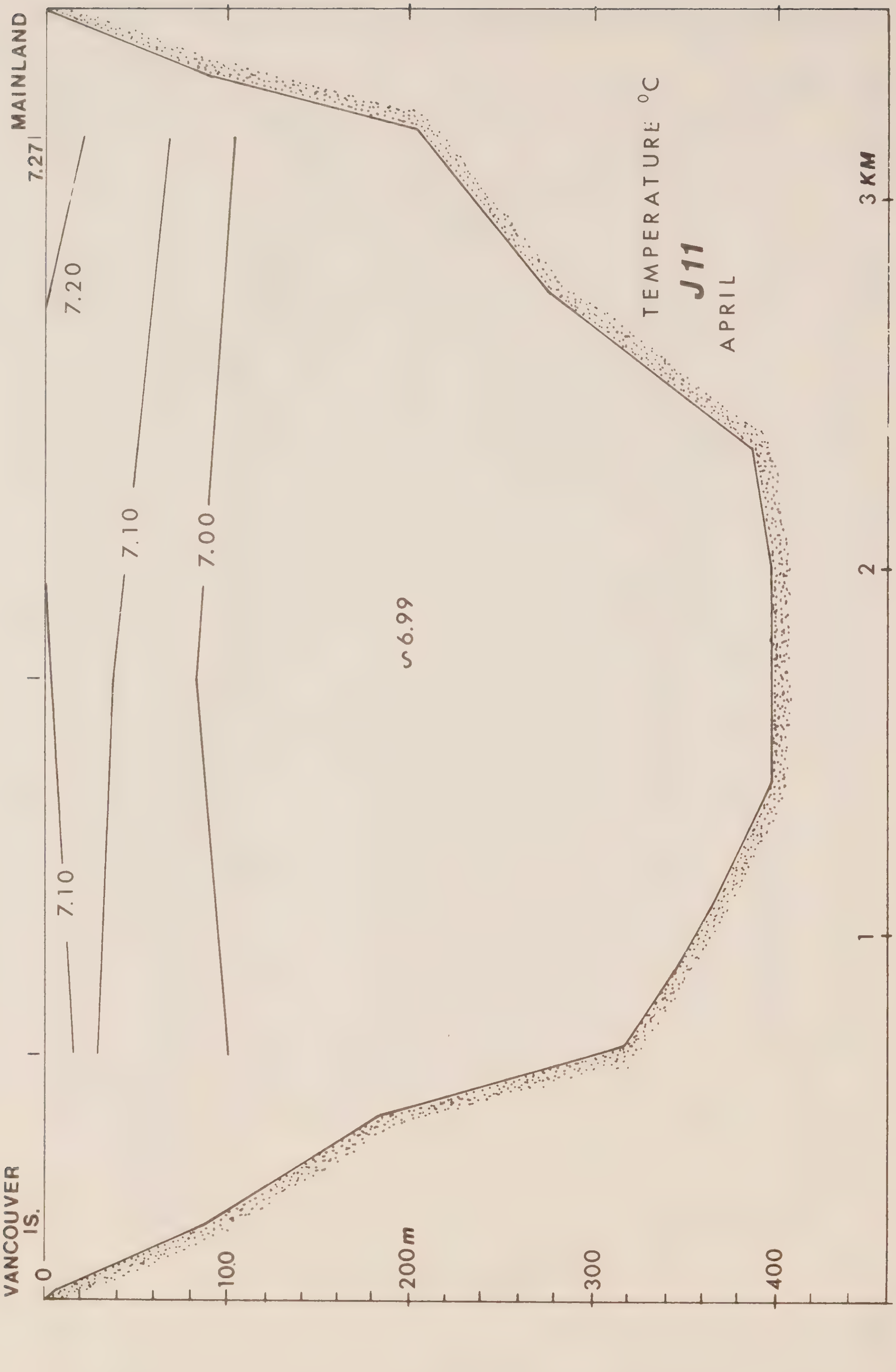

MAINLAND
VANCOUVER IS.
DENSITY $\sigma_t$
J9
APRIL
3 KM
2
1
0
100
200m
300
23.60
23.80
24.00
24.20
24.30
24.35

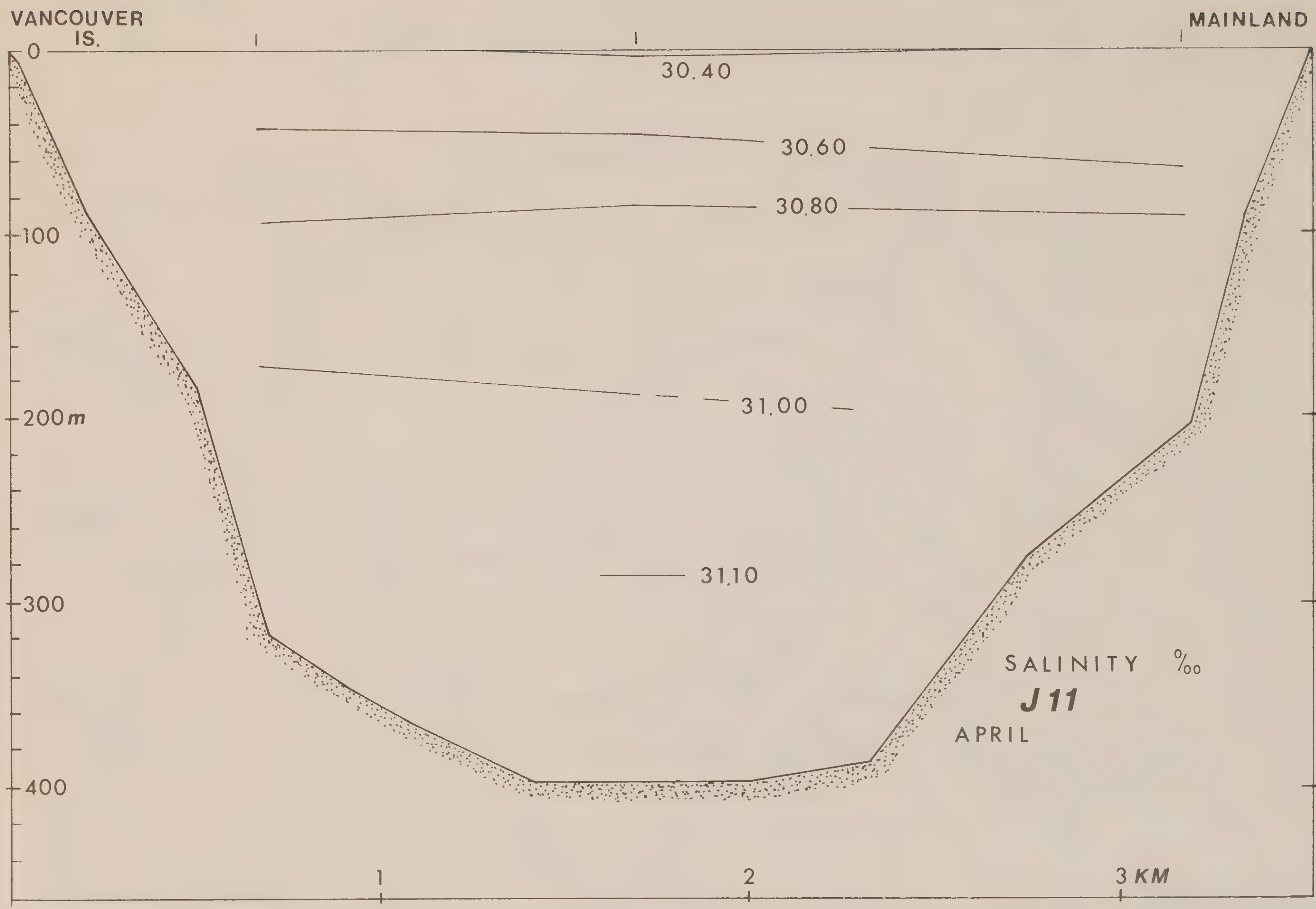


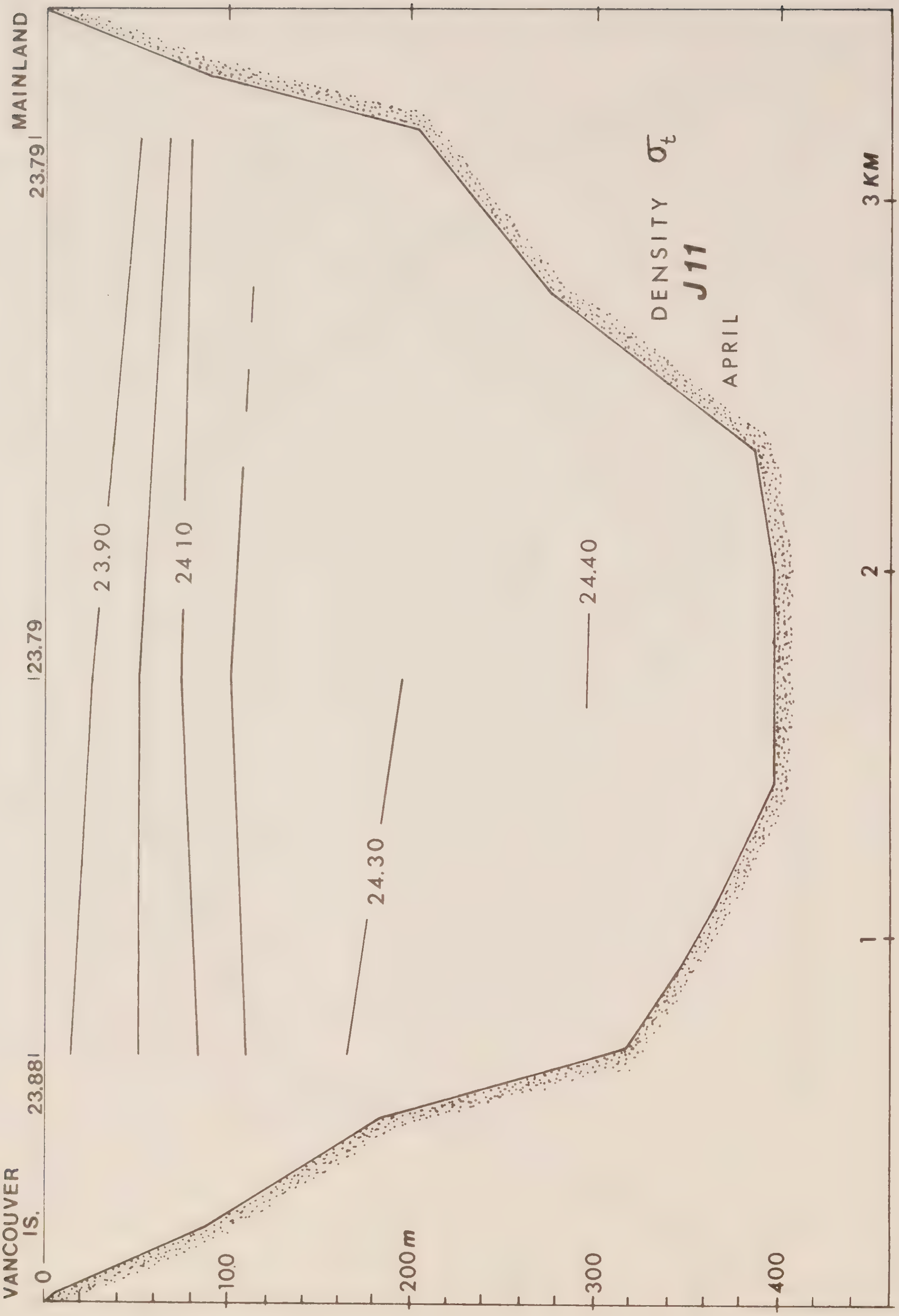
MAINLAND
VANCOUVER IS.
TEMPERATURE °C
J10
APRIL
7.30
7.10
7.00
>6.95
0
100
200m
300
400
1
2
3 KM


MAINLAND
VANCOUVER IS.
SALINITY ‰
J10
APRIL
30.40
30.80
31.05
0
100
200m
300
400
1
2
3 KM

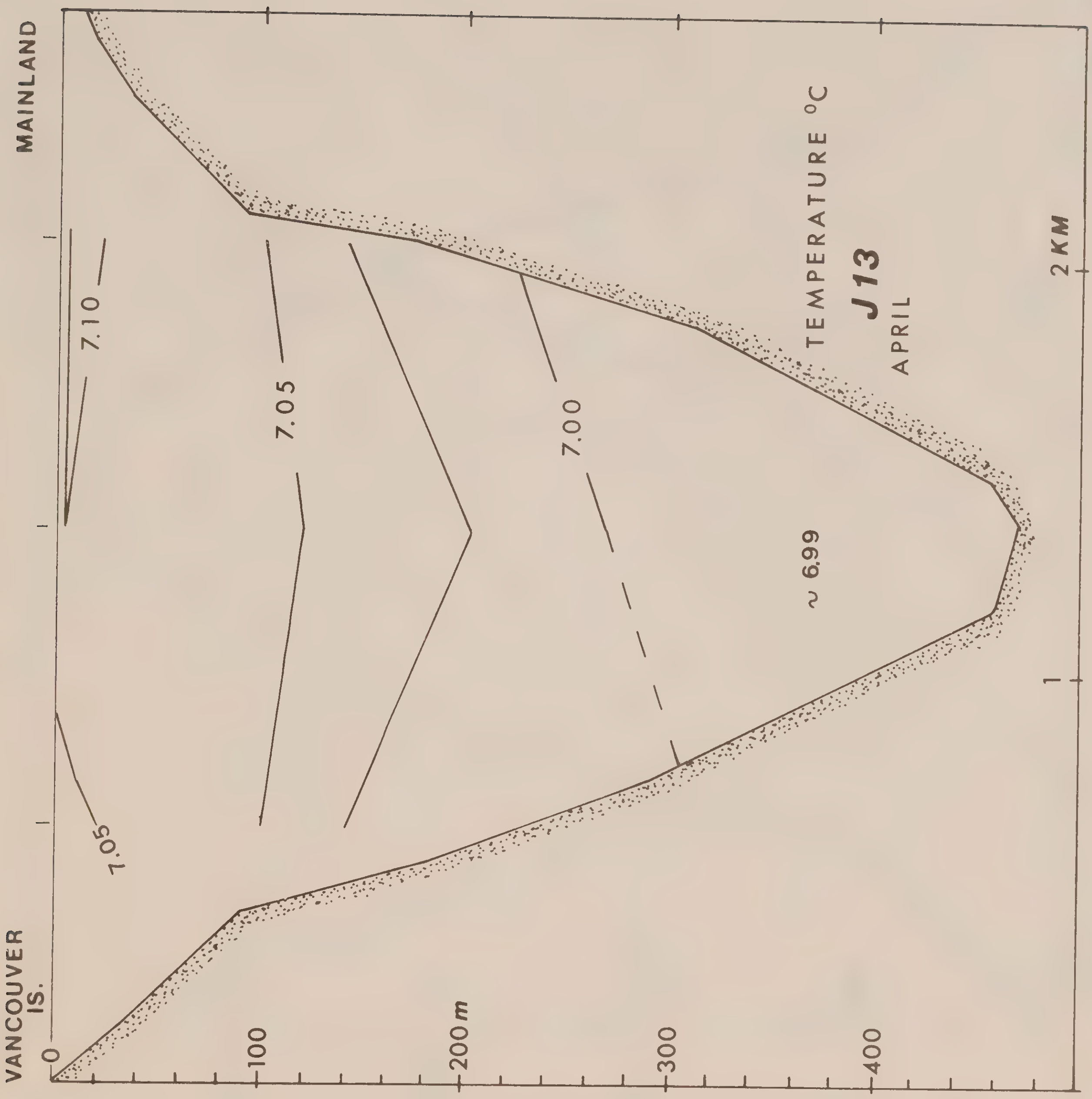

VANCOUVER IS.
MAINLAND
DENSITY $\sigma_t$
J10
APRIL
23.80
24.20
24.30
24.40
0
100
200m
300
400
1
2
3 KM


VANCOUVER IS.
MAINLAND
TEMPERATURE °C
J11
APRIL
0
100
200m
300
400
1
2
3 KM
7.27
7.20
7.10
7.10
7.00
~6.99

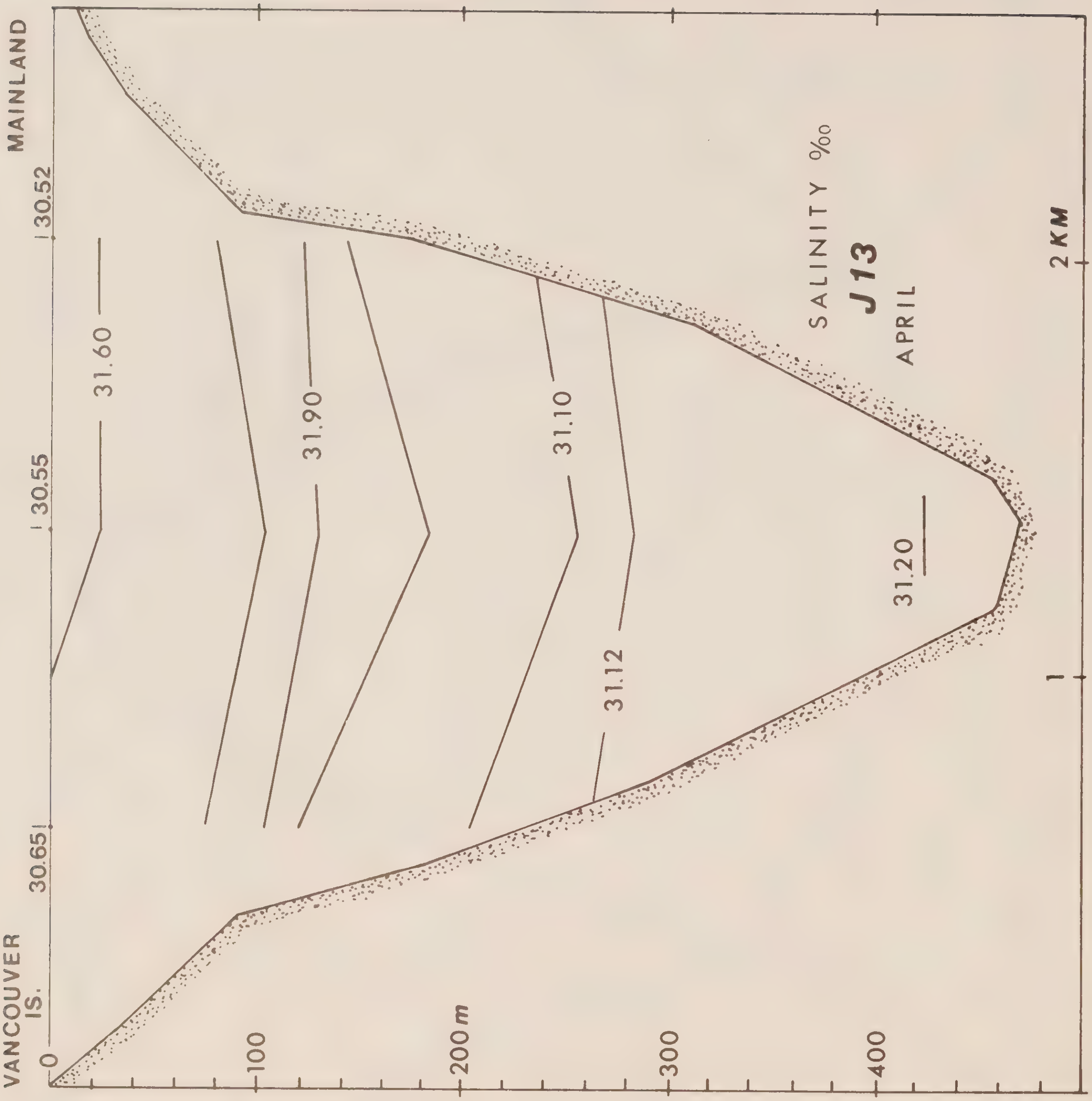

VANCOUVER IS.
MAINLAND
0
100
200 m
300
400
1
2
3 KM
30.40
30.60
30.80
31.00
31.10
SALINITY ‰
J 11
APRIL

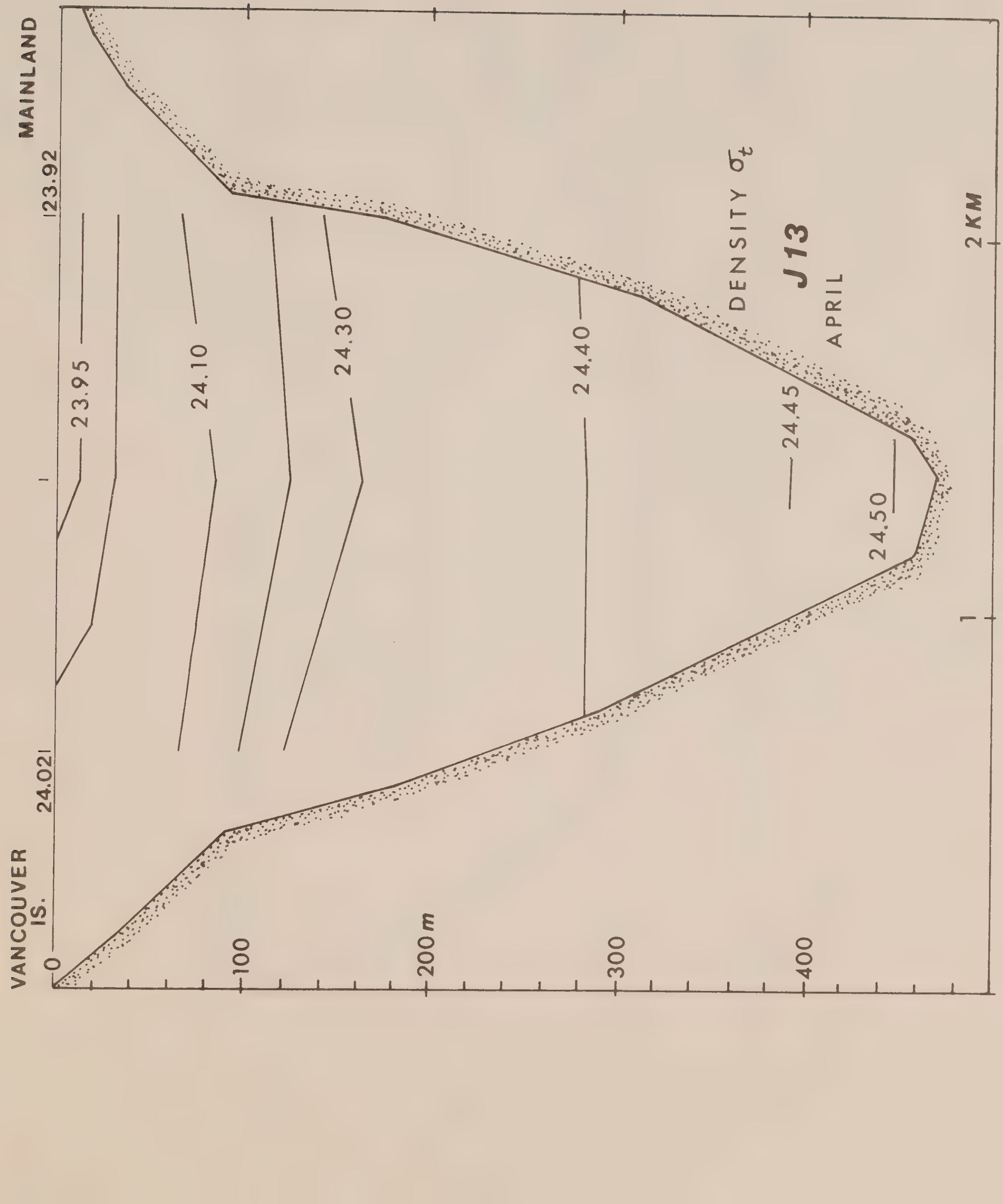


MAINLAND
VANCOUVER IS.
23.791
23.79
23.881
23.90
24.10
24.30
24.40
DENSITY $\sigma_t$
J11
APRIL
0
100
200m
300
400
1
2
3 KM



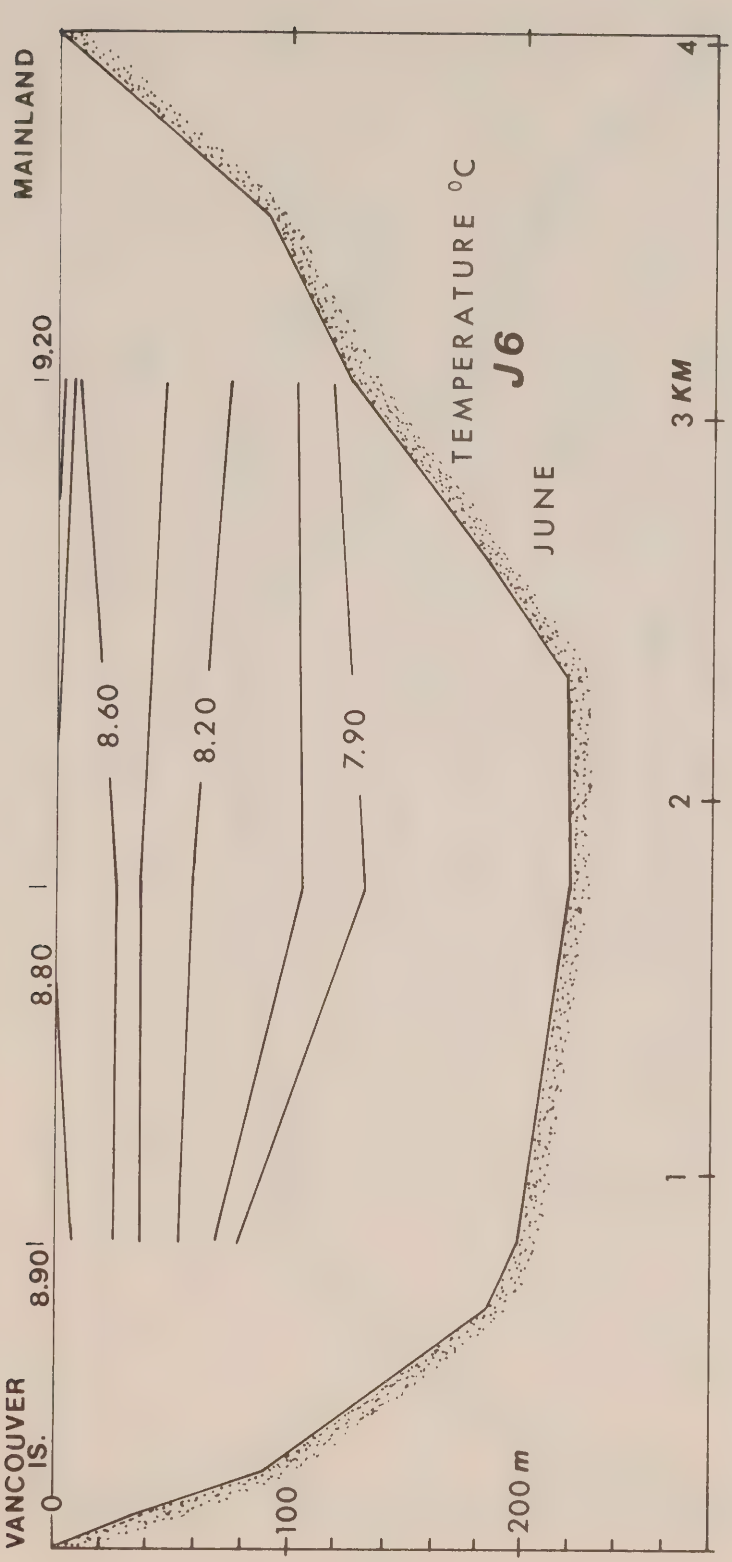
MAINLAND
VANCOUVER IS.
TEMPERATURE °C
J13
APRIL
7.10
7.05
7.00
7.05
~ 6.99
0
100
200 m
300
400
1
2 KM

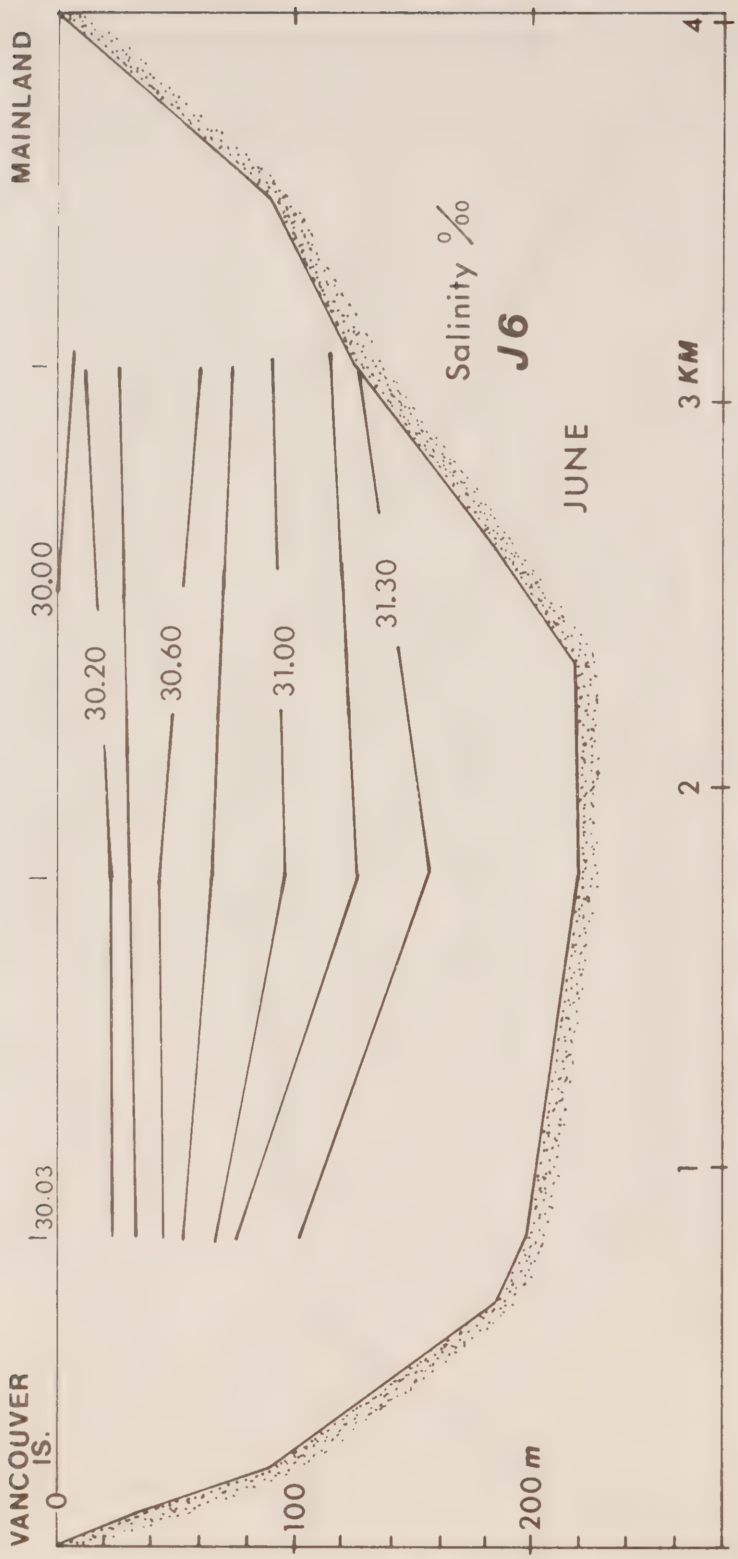

VANCOUVER IS.
MAINLAND
30.65
30.55
30.52
31.60
31.90
31.10
31.12
31.20
SALINITY ‰
J 13
APRIL
0
100
200 m
300
400
1
2 KM


VANCOUVER IS.
MAINLAND
24.021
23.92
23.95
24.10
24.30
24.40
24.45
24.50
DENSITY $\sigma_t$
J13
APRIL
0
100
200 m
300
400
1
2 KM

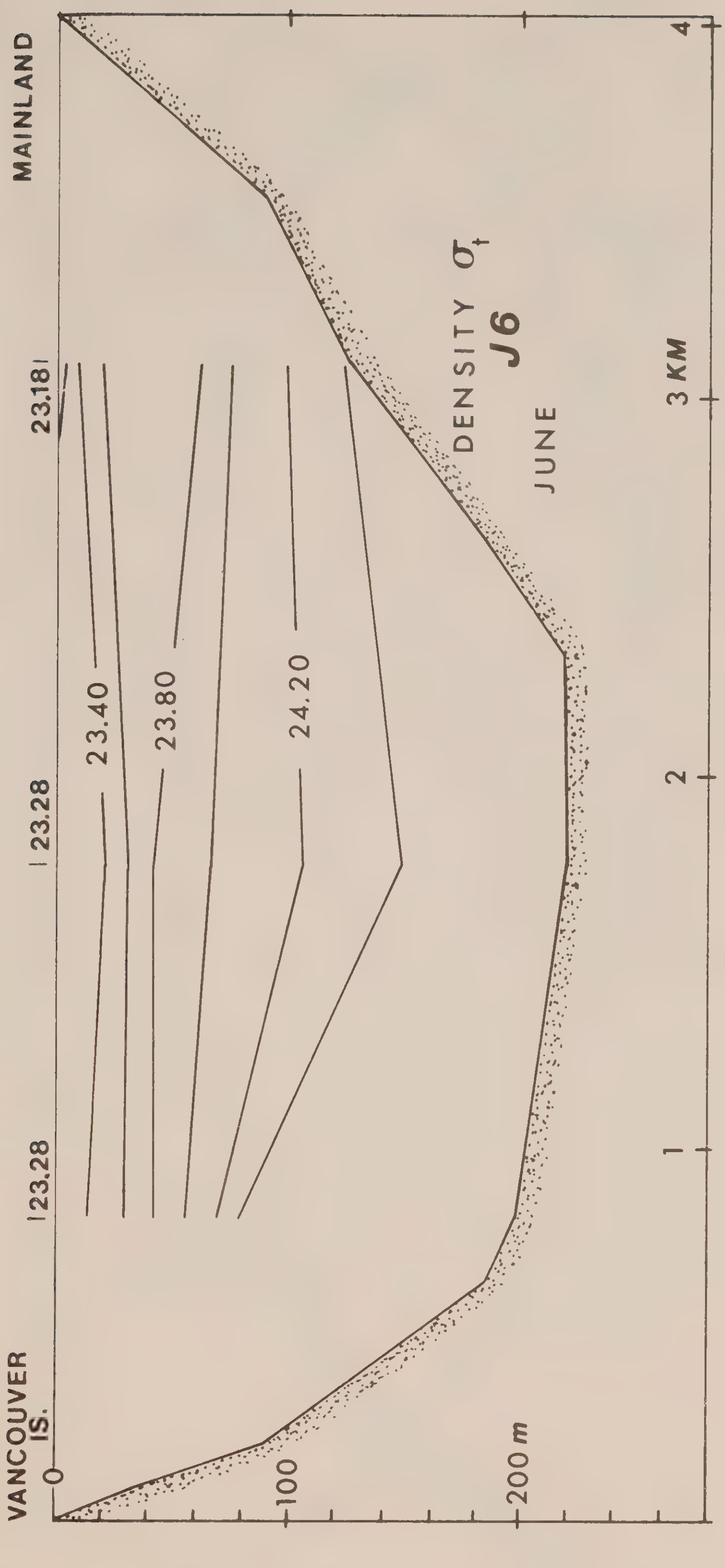
4.2 Cruise 76-22 (June 1976)

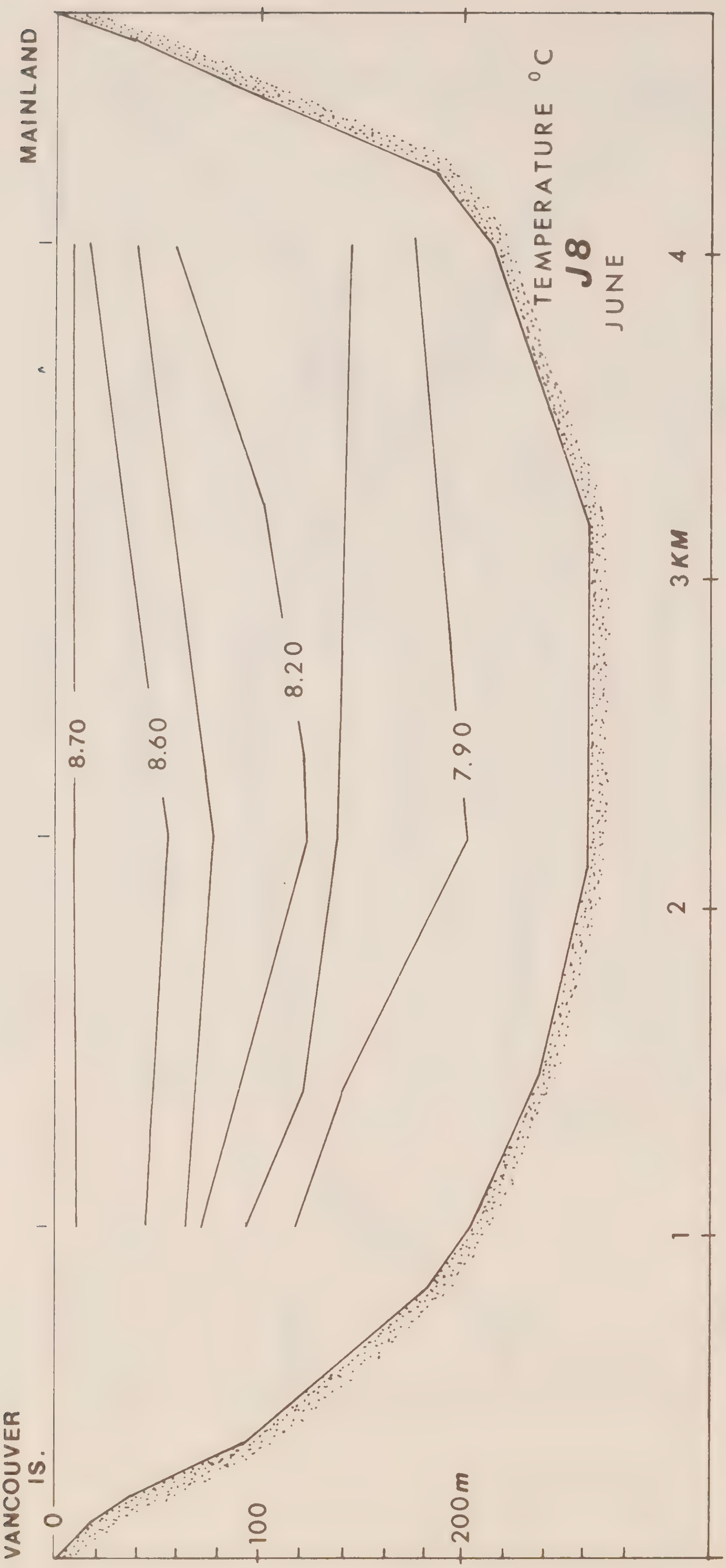
Cross-channel sections of temperature ($^{o}C$), salinity ($^{o}/oo$), density (sigma-t) and dissolved oxygen (mL/L) in Johnstone Strait during June 1976. Observations cover the period from 22 June (STN J13) 23 June (STN J6). Sections of dissolved oxygen were taken only at STN J11.


MAINLAND
VANCOUVER IS.
9.20
8.80
8.90
8.60
8.20
7.90
TEMPERATURE °C
J6
JUNE
0
100
200 m
1
2
3 KM
4

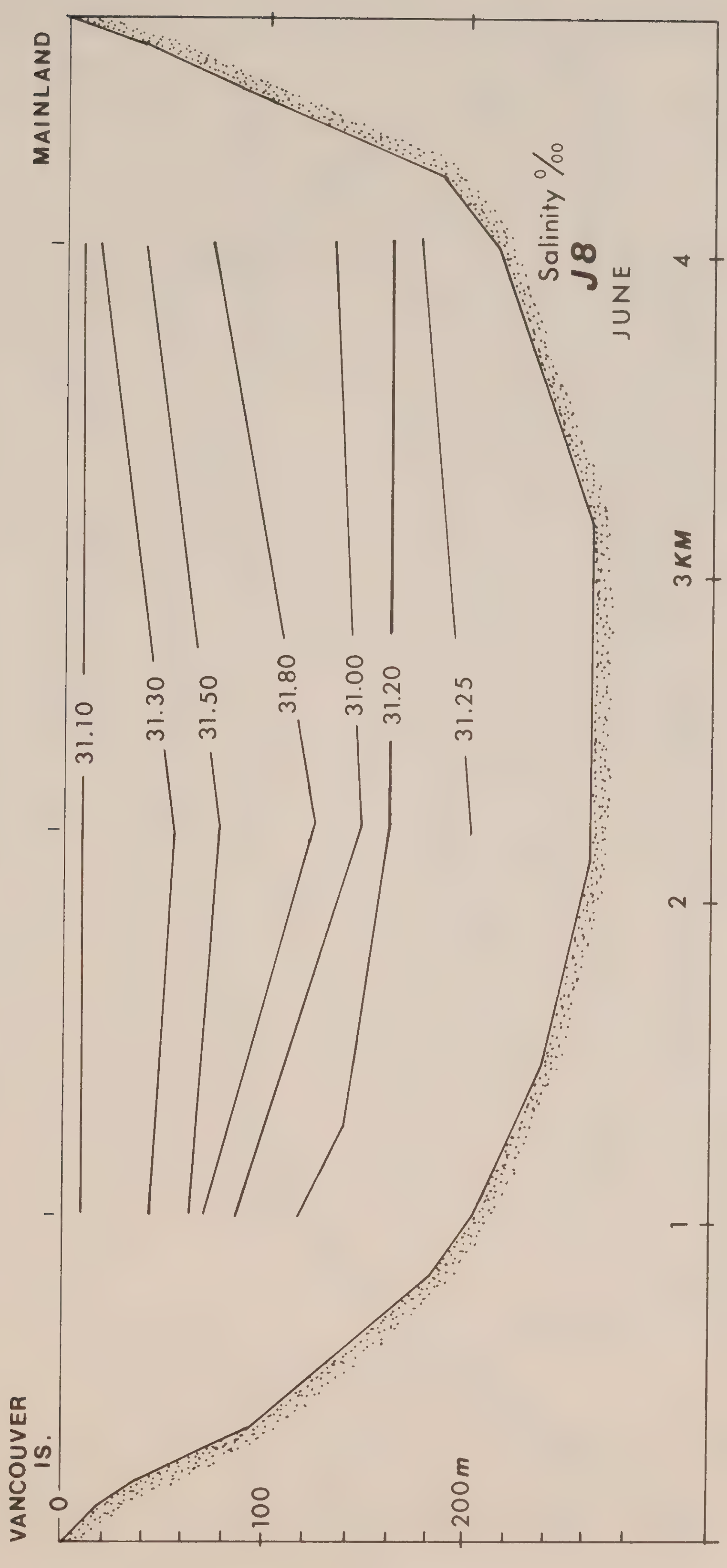


MAINLAND
VANCOUVER IS.
Salinity ‰
J6
JUNE
30.00
30.20
30.60
31.00
31.30
30.03
0
100
200 m
1
2
3 KM
4

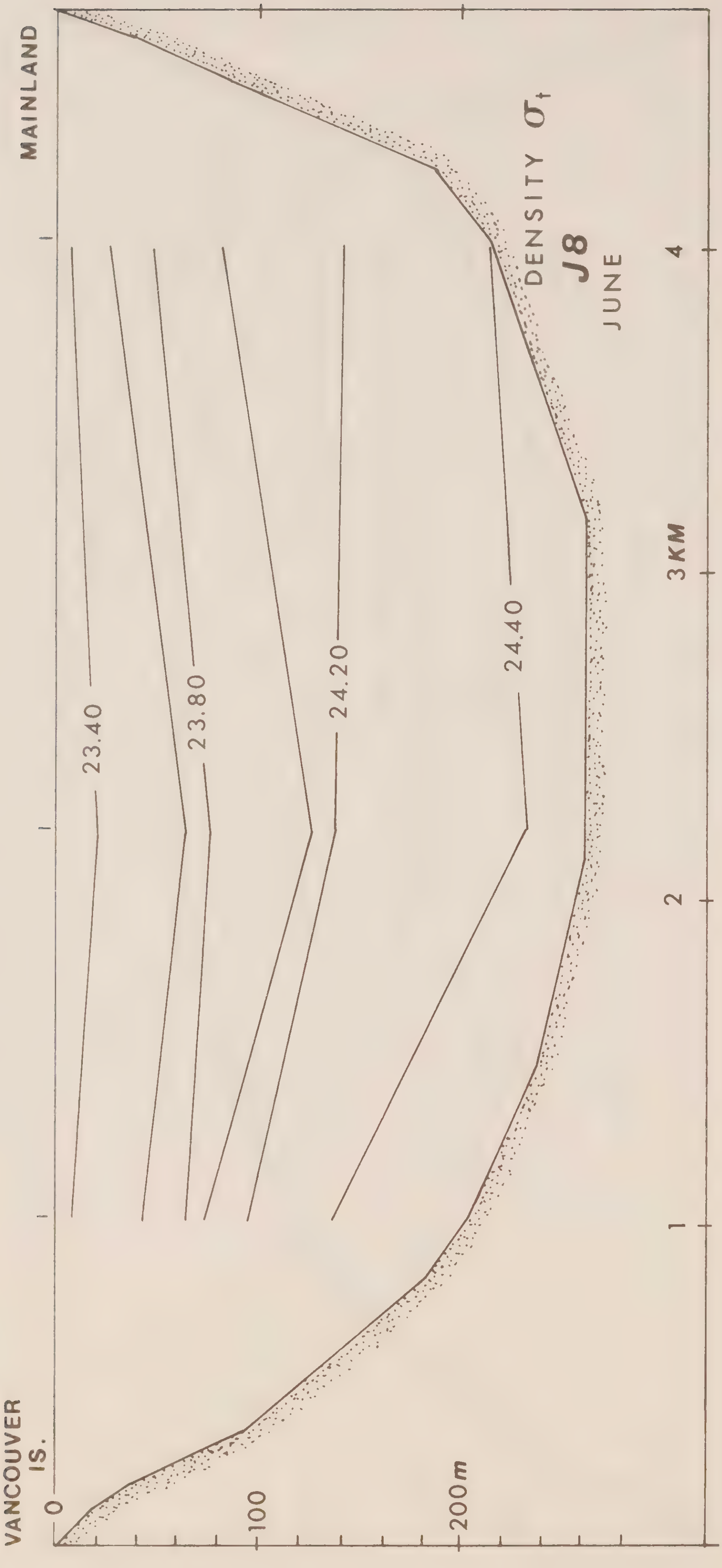

VANCOUVER IS.
MAINLAND
0
100
200 m
23.28
23.28
23.18
23.40
23.80
24.20
DENSITY σt
J6
JUNE
1
2
3 KM
4

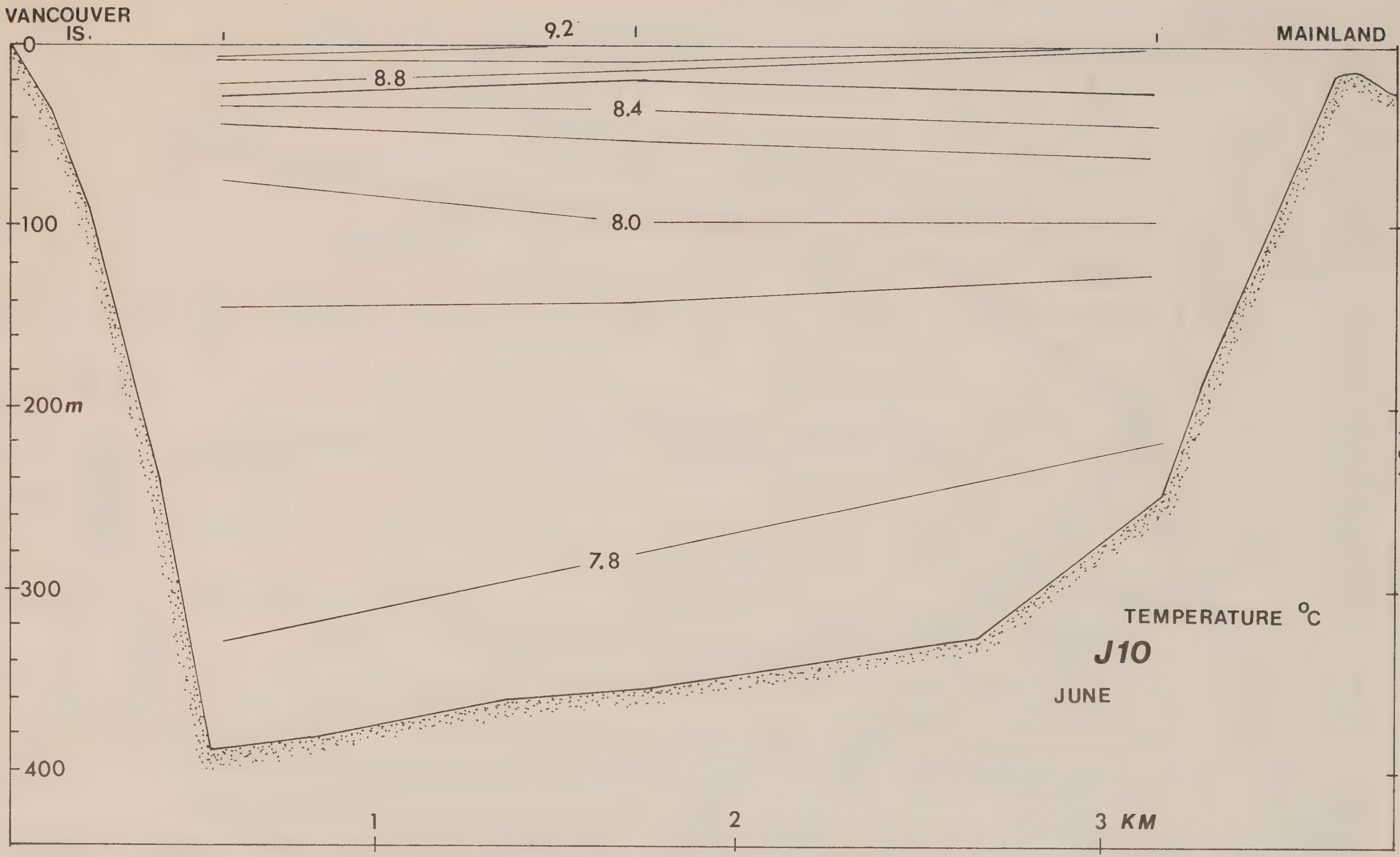


VANCOUVER IS.
MAINLAND
TEMPERATURE °C
J8
JUNE
8.70
8.60
8.20
7.90
0
100
200m
1
2
3KM
4

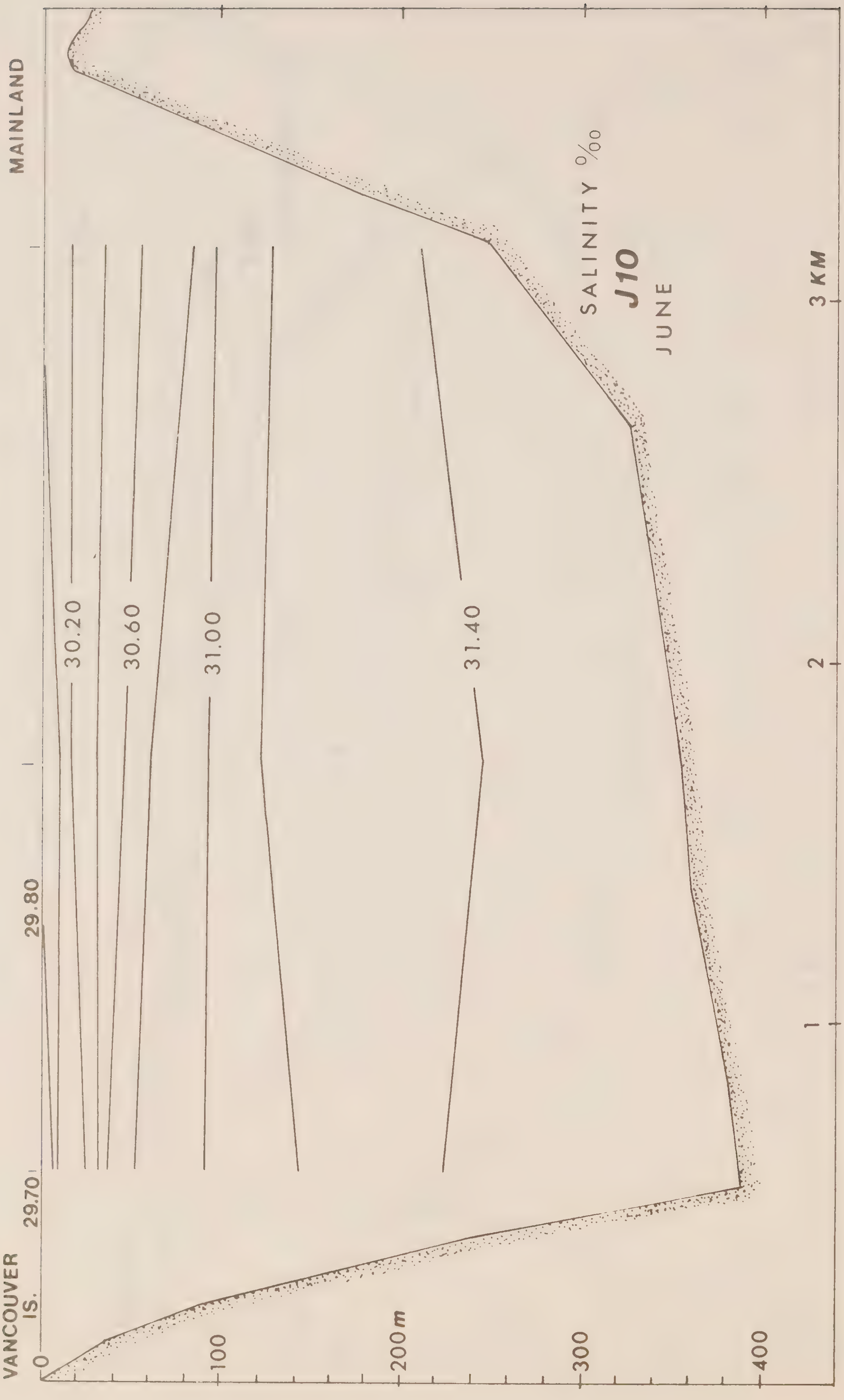


VANCOUVER IS.
MAINLAND
0
100
200m
1
2
3 KM
4
Salinity ‰
J8
JUNE
31.10
31.30
31.50
31.80
31.00
31.20
31.25

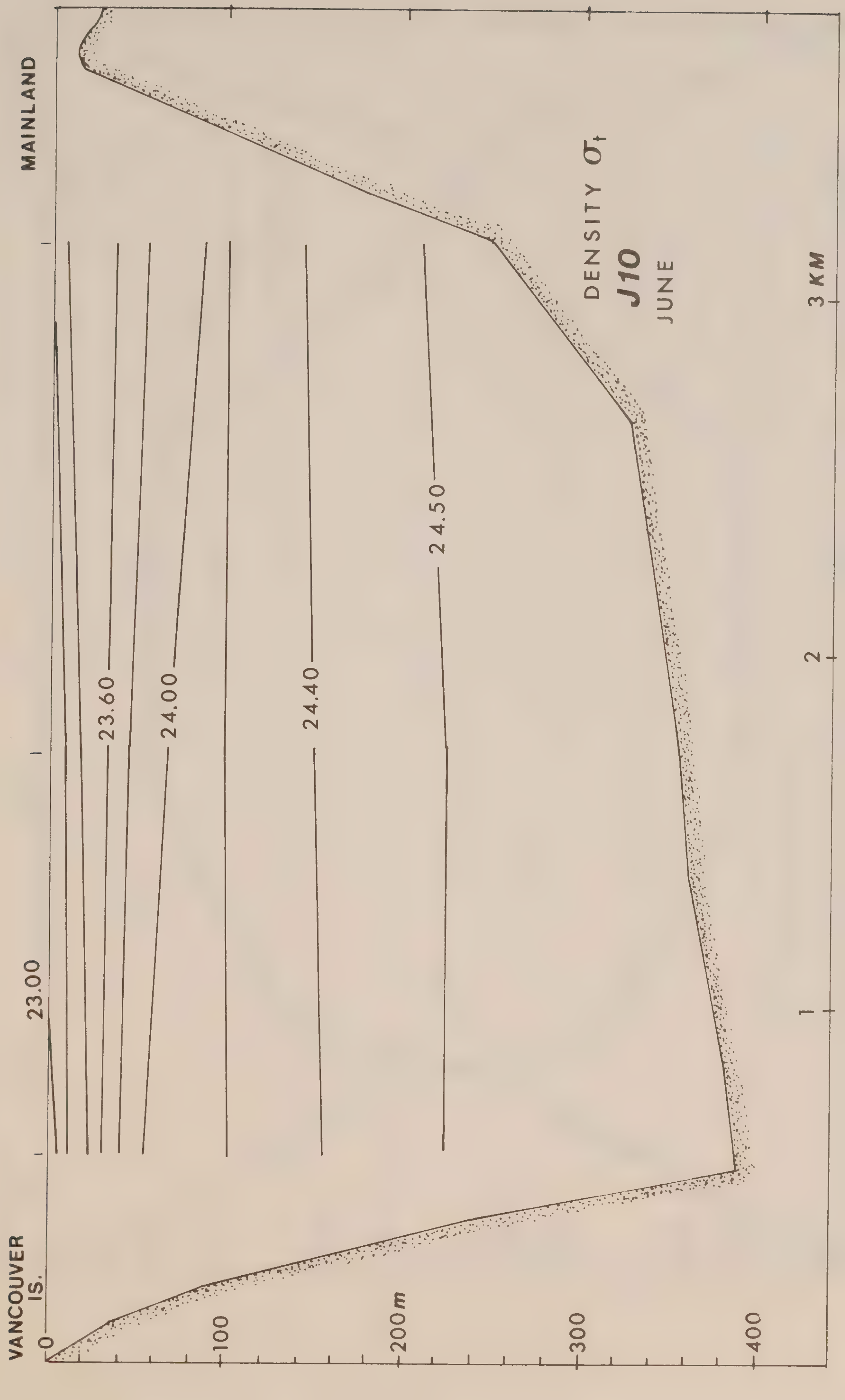

MAINLAND
VANCOUVER IS.
DENSITY $\sigma_t$
J8
JUNE
23.40
23.80
24.20
24.40
0
100
200m
1
2
3KM
4

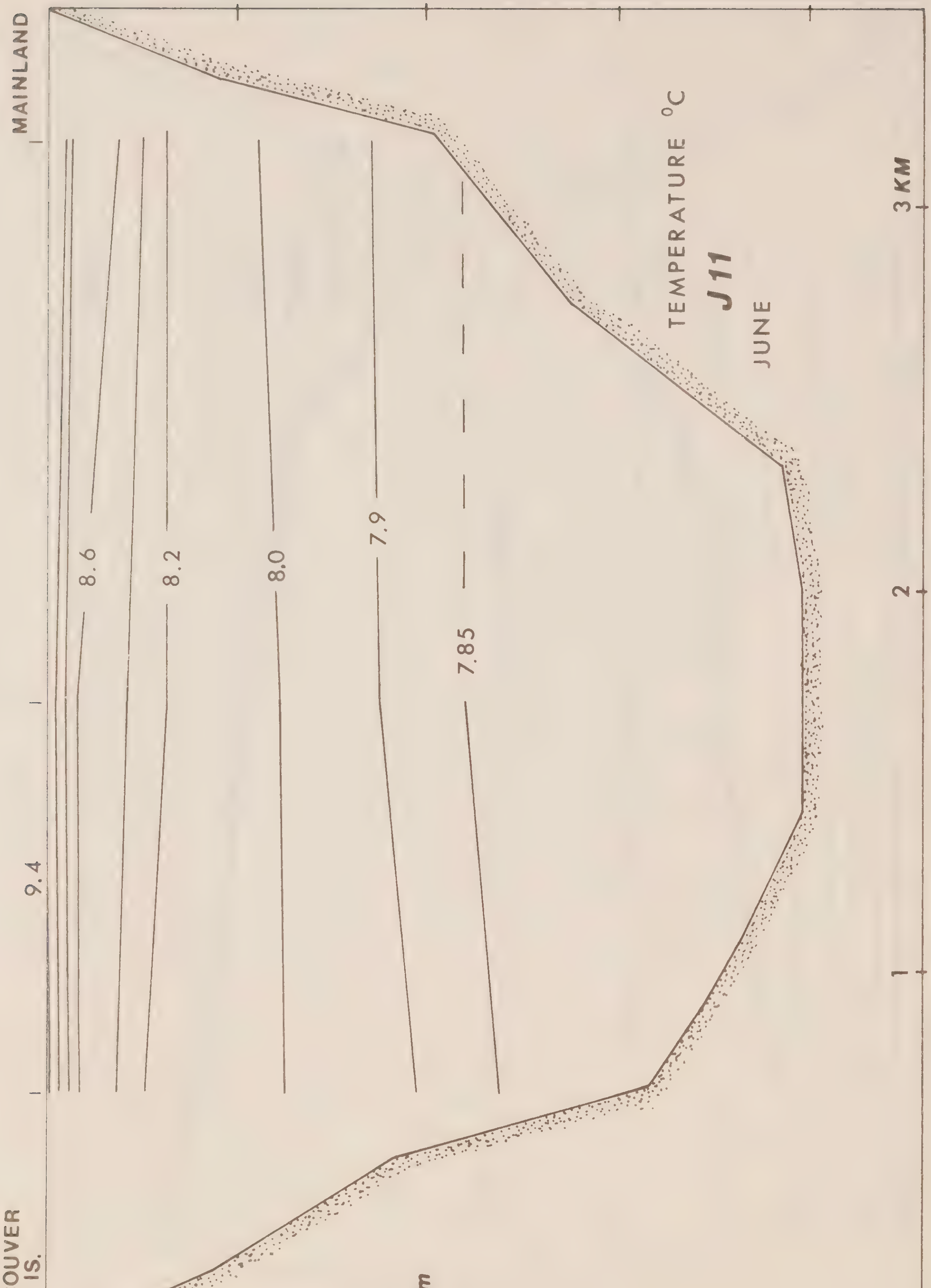


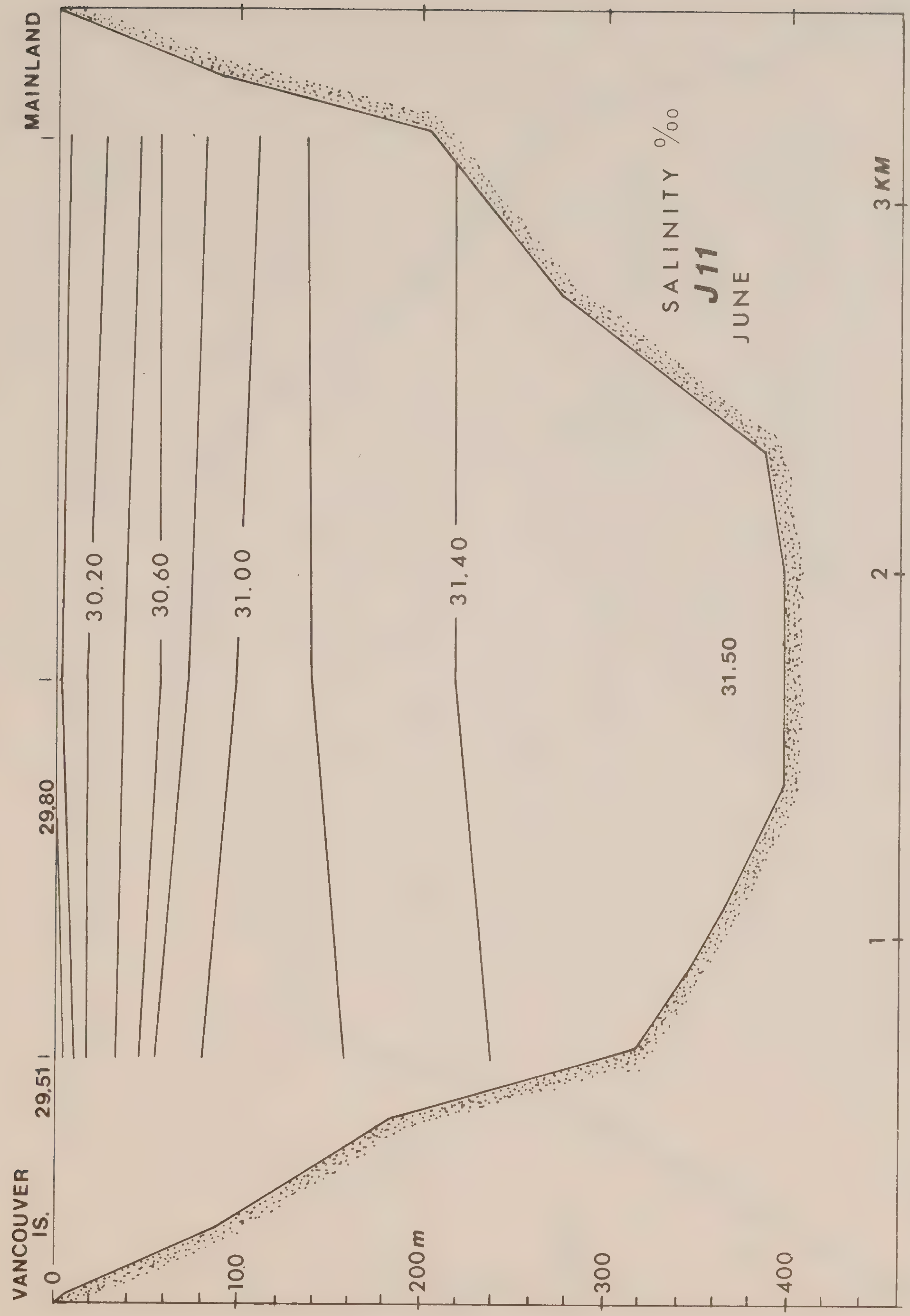
VANCOUVER IS.
MAINLAND
0
100
200m
300
400
9.2
8.8
8.4
8.0
7.8
1
2
3 KM
TEMPERATURE °C
J10
JUNE

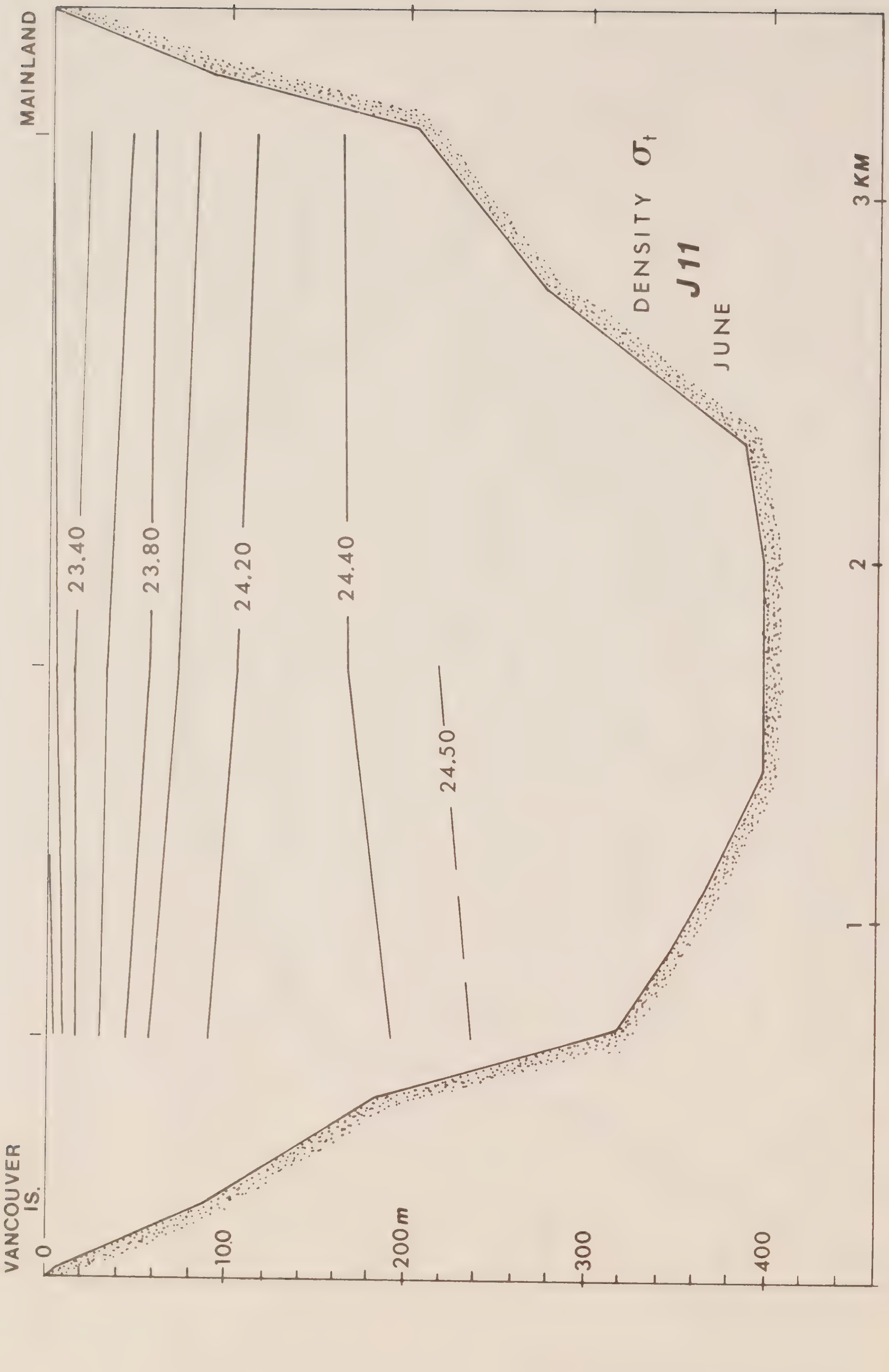


MAINLAND
VANCOUVER IS.
SALINITY ‰
J10
JUNE
29.70
29.80
30.20
30.60
31.00
31.40
0
100
200m
300
400
1
2
3 KM

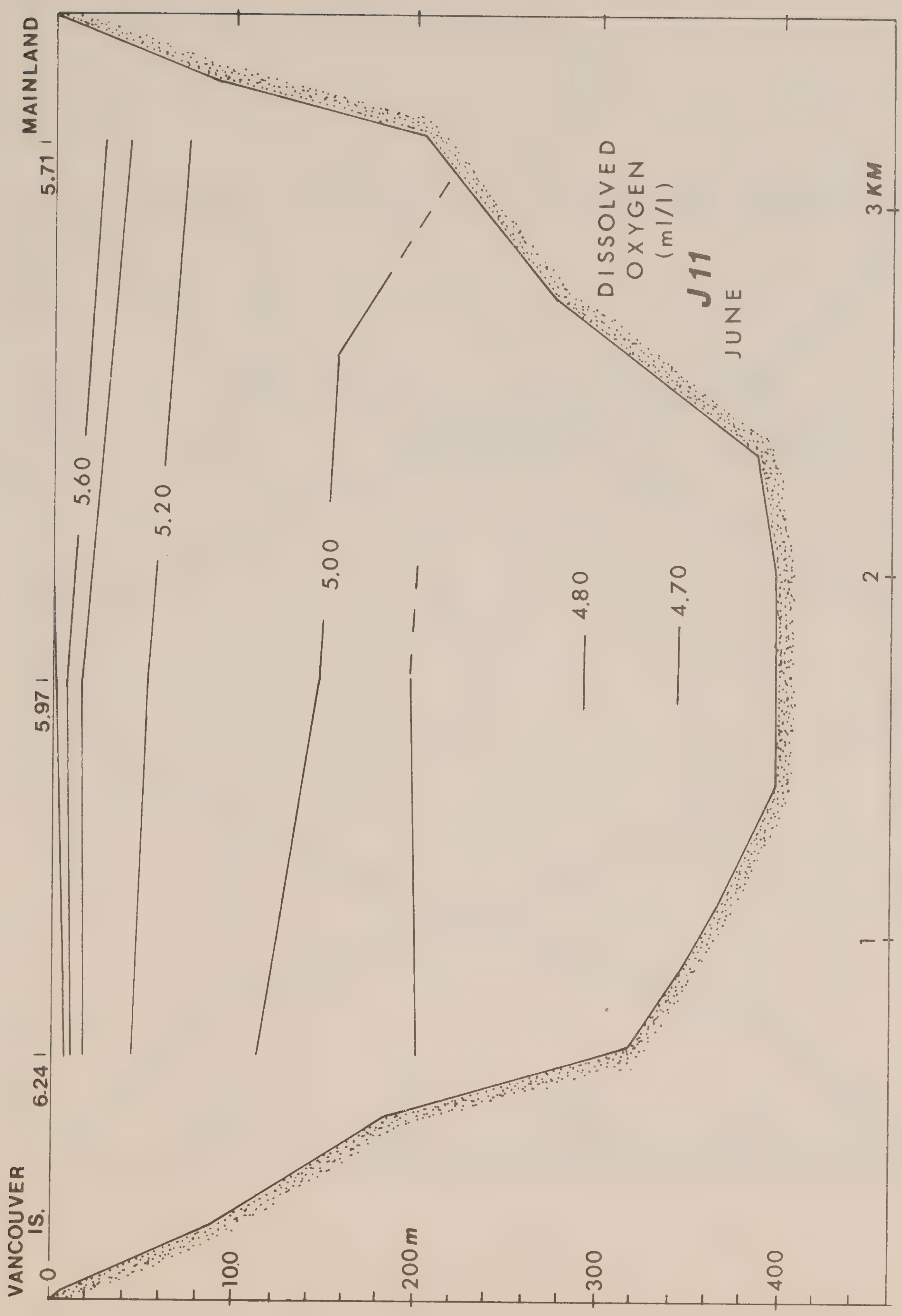

MAINLAND
VANCOUVER IS.
DENSITY $\sigma_t$
J10
JUNE
23.00
23.60
24.00
24.40
24.50
0
100
200 m
300
400
1
2
3 KM

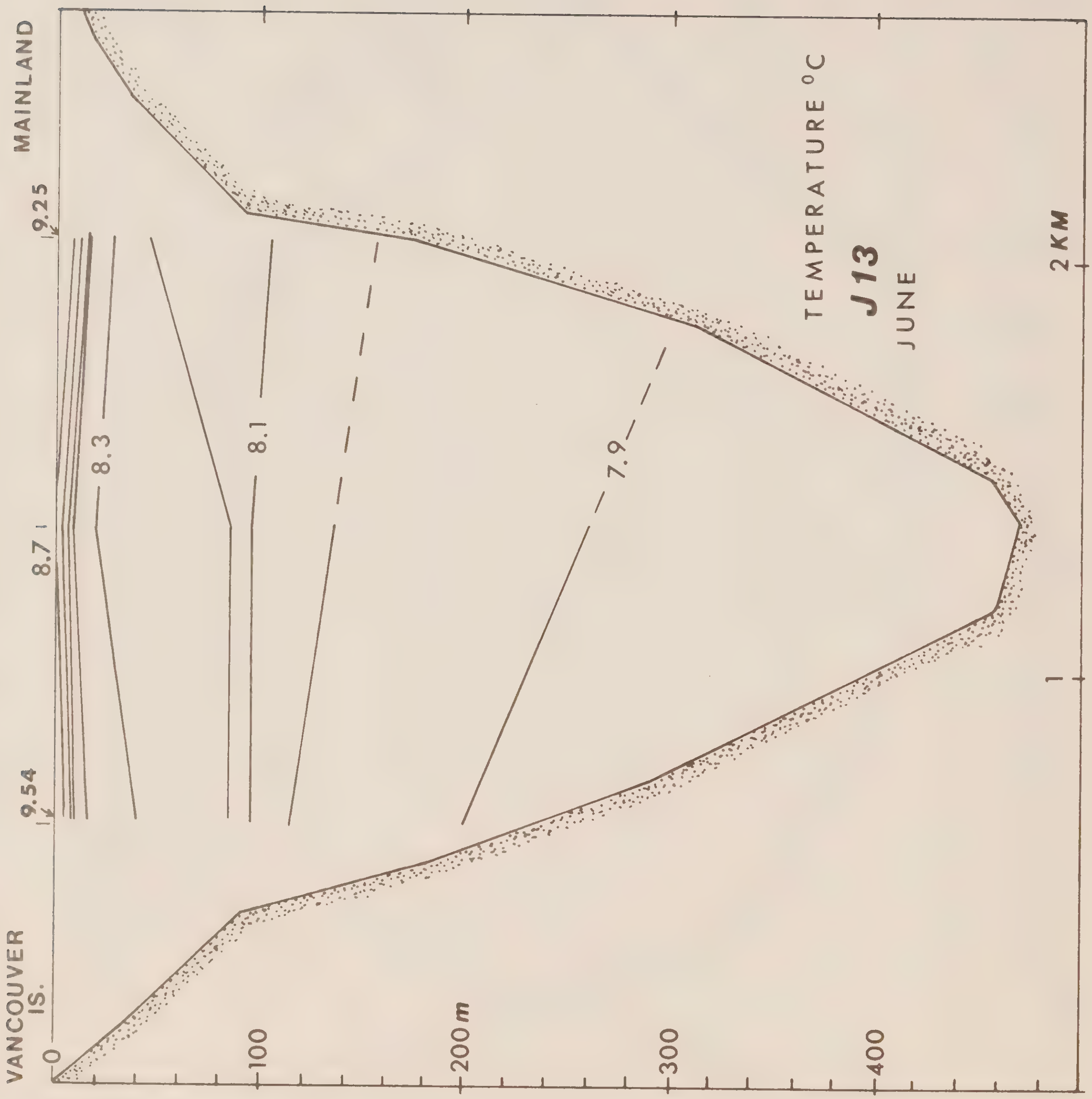

MAINLAND
VANCOUVER IS.
TEMPERATURE °C
J11
JUNE
9.4
8.6
8.2
8.0
7.9
7.85
0
100
200m
300
400
1
2
3 KM

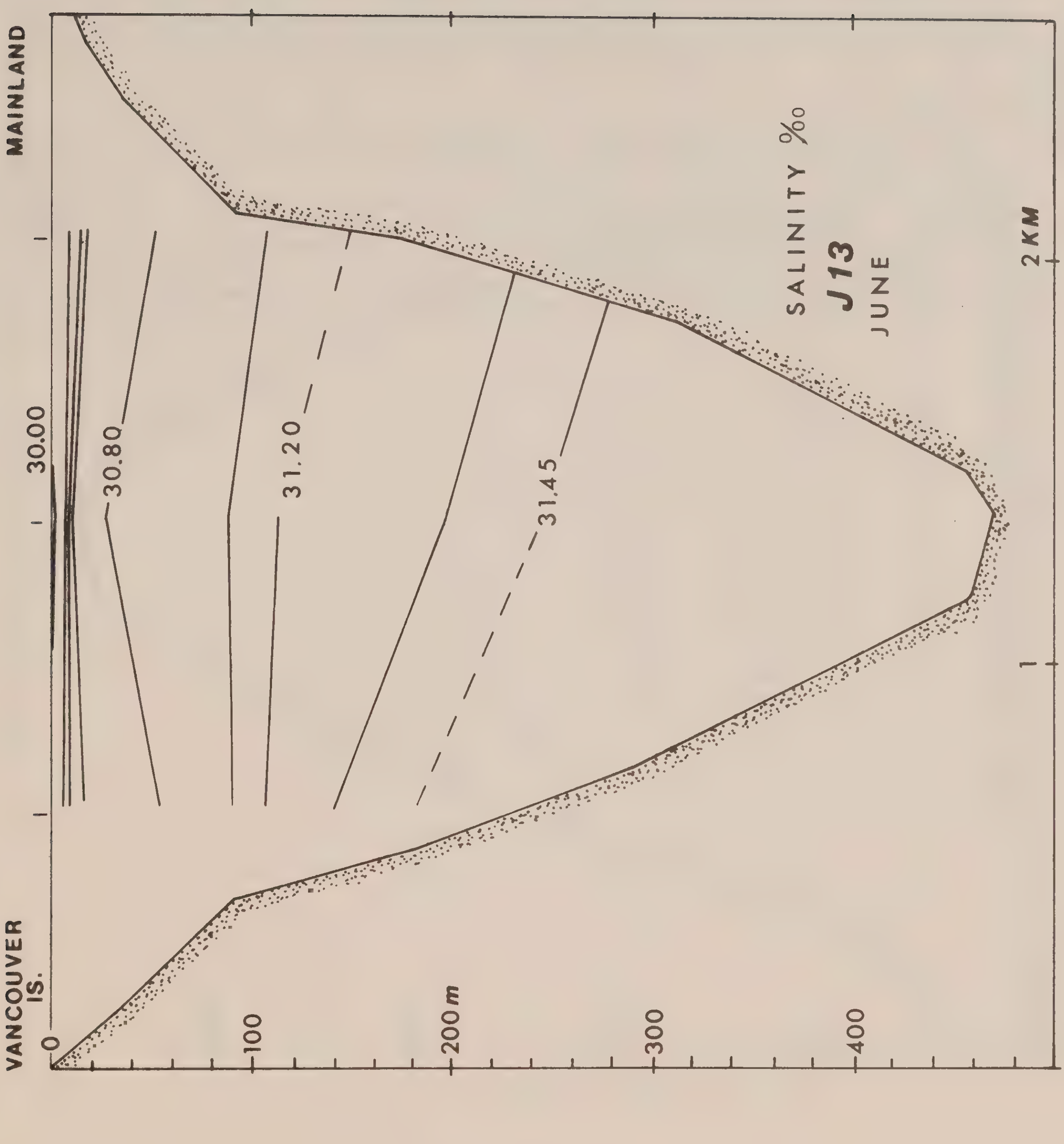

MAINLAND
VANCOUVER IS.
SALINITY ‰
J11
JUNE
29.51
29.80
30.20
30.60
31.00
31.40
31.50
0
100
200 m
300
400
1
2
3 KM

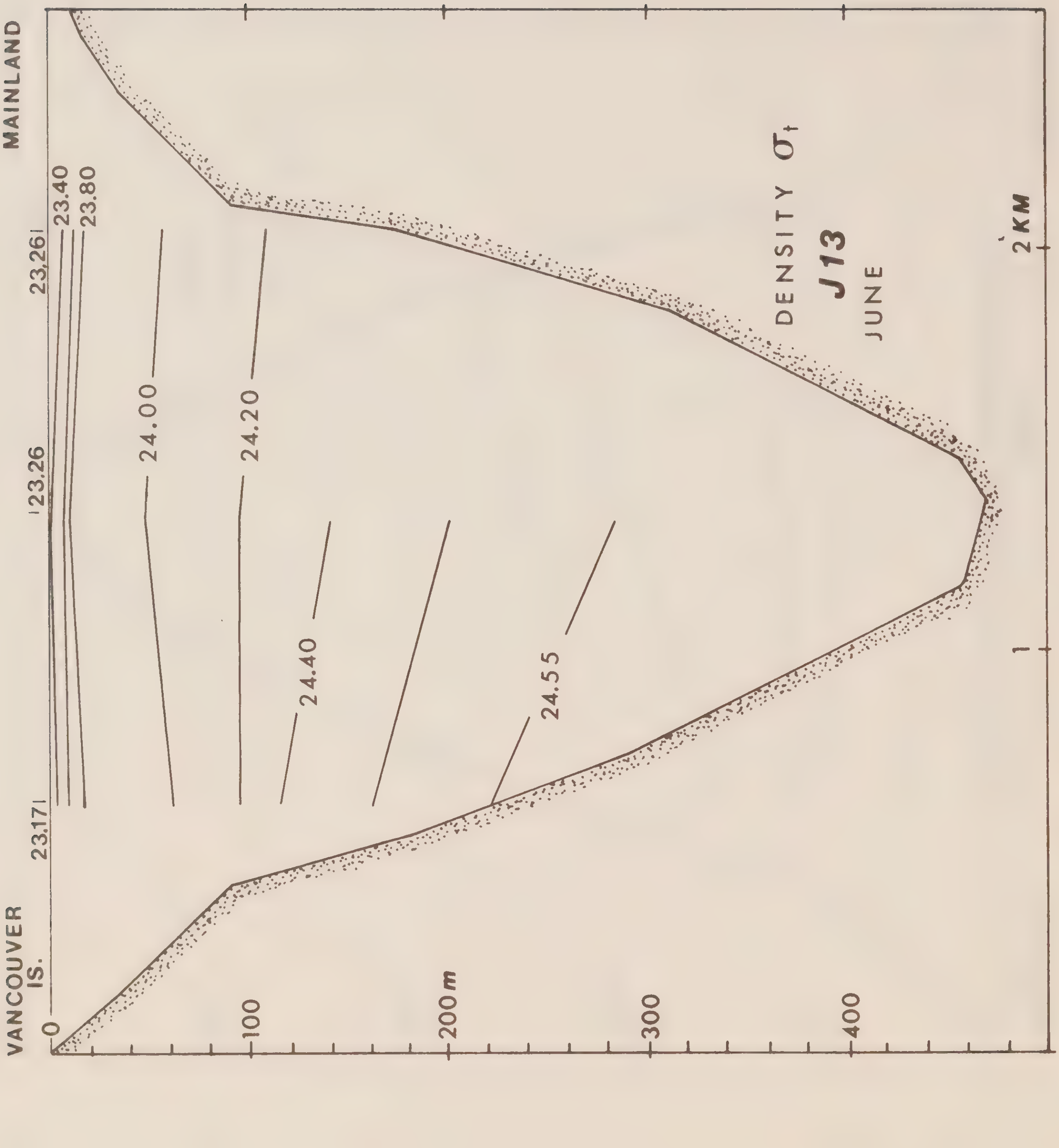


MAINLAND
VANCOUVER IS.
DENSITY $\sigma_t$
J11
JUNE
23.40
23.80
24.20
24.40
24.50
0
100
200m
300
400
1
2
3 KM


VANCOUVER IS.
MAINLAND
6.24
5.97
5.71
0
100
200m
300
400
5.60
5.20
5.00
4.80
4.70
DISSOLVED OXYGEN (ml/l)
J11
JUNE
1
2
3 KM


VANCOUVER IS.
MAINLAND
9.54
8.7
9.25
8.3
8.1
7.9
TEMPERATURE °C
J13
JUNE
0
100
200 m
300
400
1
2 KM


VANCOUVER IS.
MAINLAND
SALINITY ‰
J13
JUNE
30.00
30.80
31.20
31.45
0
100
200 m
300
400
1
2 KM


MAINLAND
VANCOUVER IS.
23.261
23.40
23.80
23.26
23.171
24.00
24.20
24.40
24.55
DENSITY σt
J13
JUNE
0
100
200 m
300
400
1
2 KM

## 5. Time-series CTDs

Time series CTDs consisted of casts approximately every hour for periods of five hours or longer at fixed locations. Half of the time-series stations had durations of 26 hours and the maximum duration was 37 hours (at station J8 in March 1977). In addition to single stations a number of multi-station time-series surveys were performed in which casts were taken sequentially at two or three adjacent locations. Station separation was such that the combined steaming and cast times allowed the individual time series of the grid to be made up of hourly profiles.

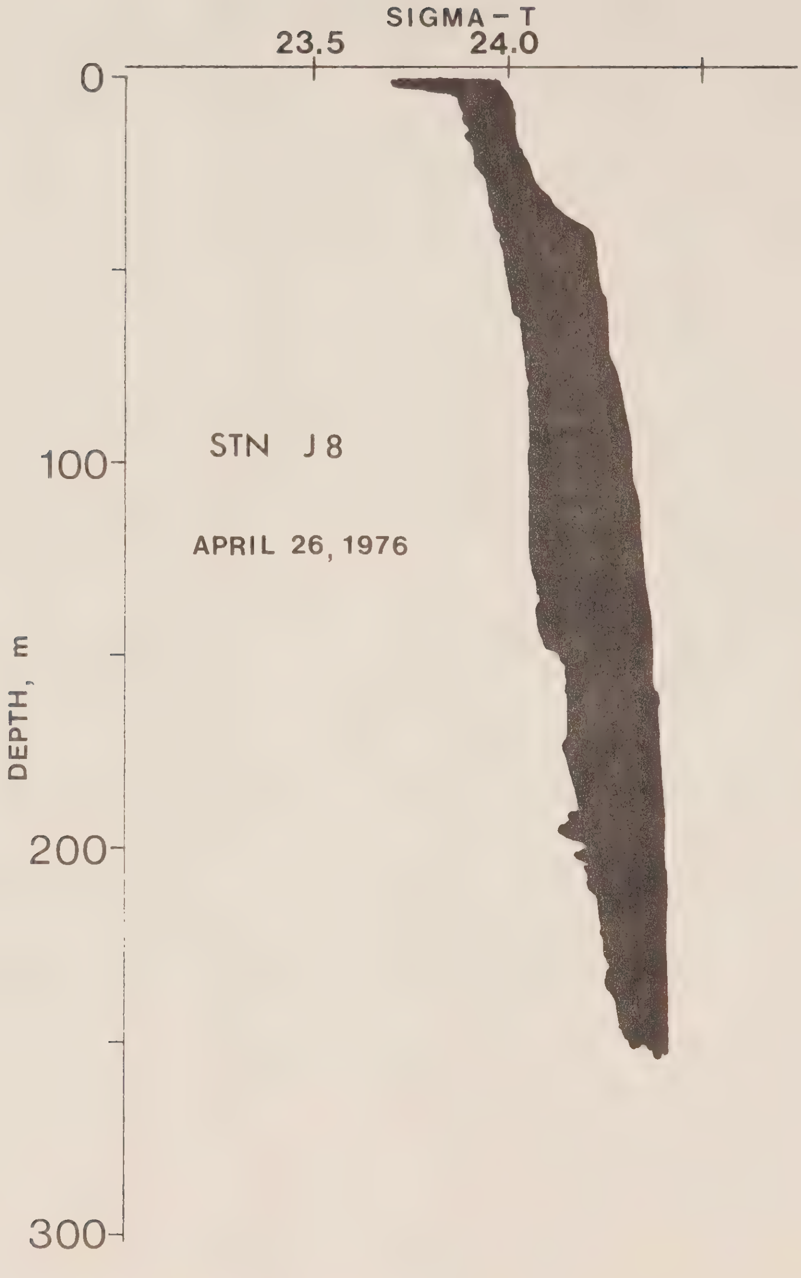
Table 4 lists the start times and durations for each of the time series observations taken in Johnstone and Queen Charlotte Straits. More than one station per line denotes a multi-station survey with "simultaneous" measurements at spatially separated locations. These data are listed in Appendix B. For illustrative purposes, portions of the data for selected stations are also presented in the following subsections as: composite plots of sigma-t profiles; sequences of sigma-t profiles; density at specified depths versus time; and as depths of selected density surfaces versus time.

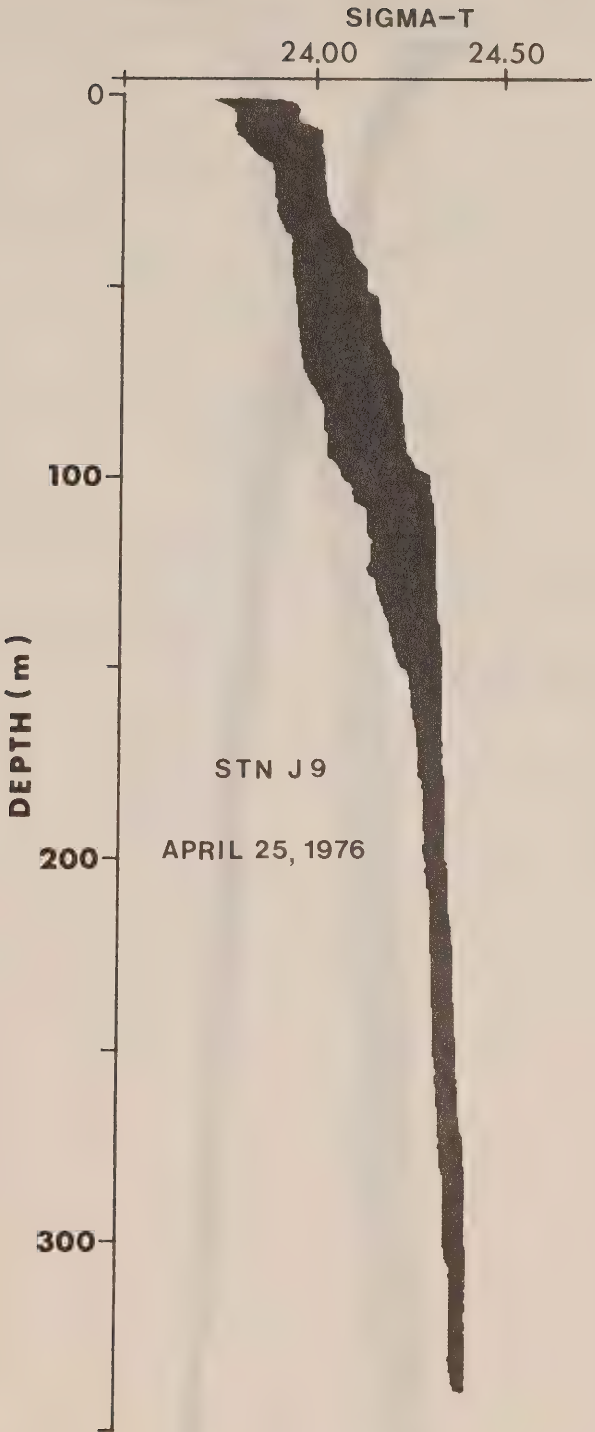
TABLE 4. Time series CTD stations and approximate number of hourly observations. J - Johnstone Strait; QST - Queen Charlotte Strait; S - Sunderland Channel. An x in the last column indicates that a time series in dissolved oxygen was taken.

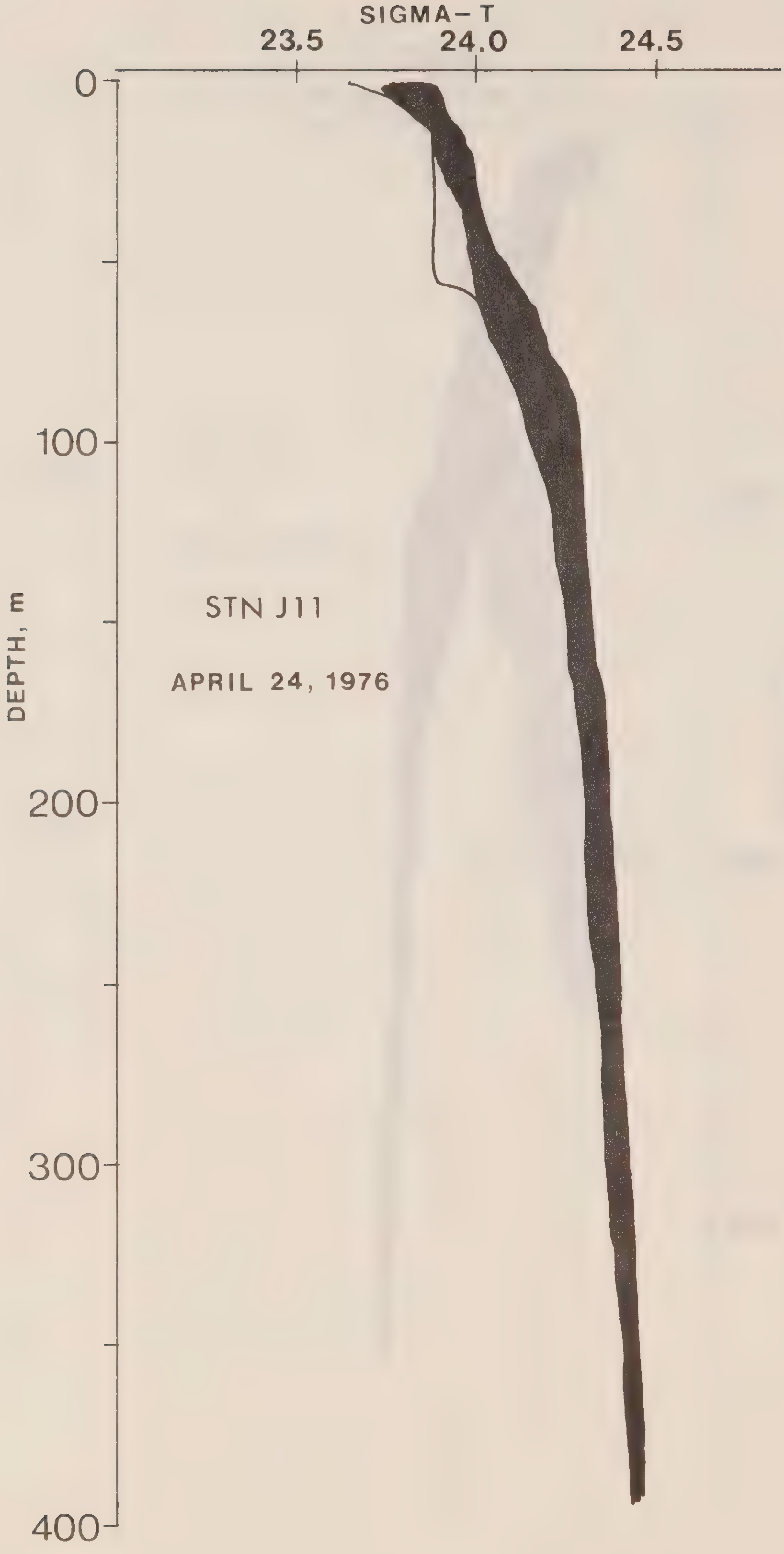
| STATION(S) ID | CRUISE ID | START TIME YR. | MO. | DAY | HR. | NO. HOURS | $DO_2$ |
|---|---|---|---|---|---|---|---|
| J13 | 76-20 | 76 | 04 | 23 | 04 | 26 | x |
| J11 | " | " | " | 24 | 07 | 26 | x |
| J9 | " | " | " | 25 | 15 | 26 | x |
| J8 | " | " | " | 26 | 19 | 26 | x |
| QST6 | 77-10 | 77 | 01 | 30 | 04 | 5 | |
| J14A | " | " | " | " | 18 | 14 | x |
| J8-J7N-J7S | " | " | " | 31 | 19 | 13 | |
| J13 | 77-11 | 77 | 03 | 03 | 20 | 12 | |
| QST1 | " | " | " | 04 | 17 | 15 | |
| J8 | " | " | " | 06 | 03 | 37 | x |
| J6 | 77-12 | 77 | 05 | 12 | 14 | 13 | x |
| S1 | " | " | " | 13 | 03 | 12 | x |
| J85-J95 | " | " | " | 13 | 15 | 26 | |
| J8-A2 | 77-15 | 77 | 11 | 21 | 01 | 33 | |
| J13 | 78-15 | 78 | 05 | 26 | 13 | 26 | |
| J8 -J7 | " | " | " | 27 | 18 | 26 | |
| J7-J6 | " | " | " | 29 | 18 | 26 | |
| J5 | " | " | " | 30 | 19 | 26 | |
| JN-JS | 79-14 | 79 | 08 | 12 | 09 | 26 | x |

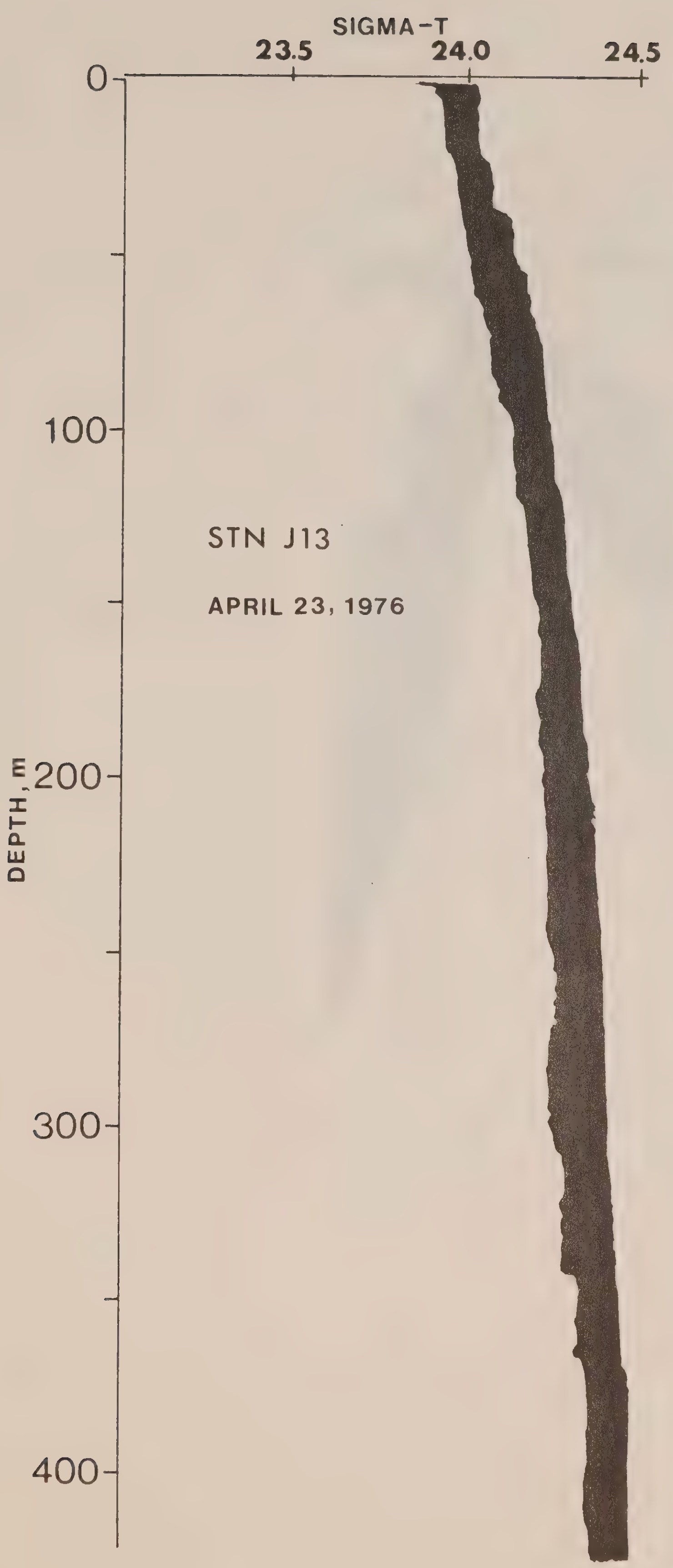
## 5.1 COMPOSITE PROFILES PLOTS OF SIGMA-T

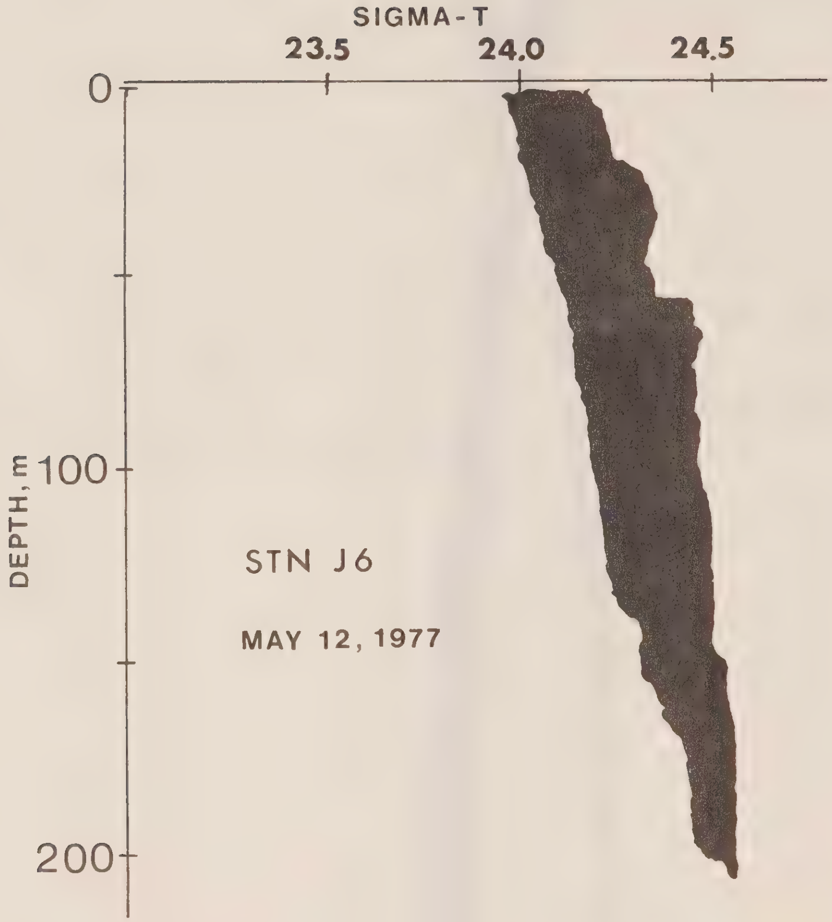
Plots show the span of temporal variability of sigma-t profiles at given time-series CTD stations. Starting date is listed below the station identification. Values for individual casts can be obtained from Appendix B or §5.2.

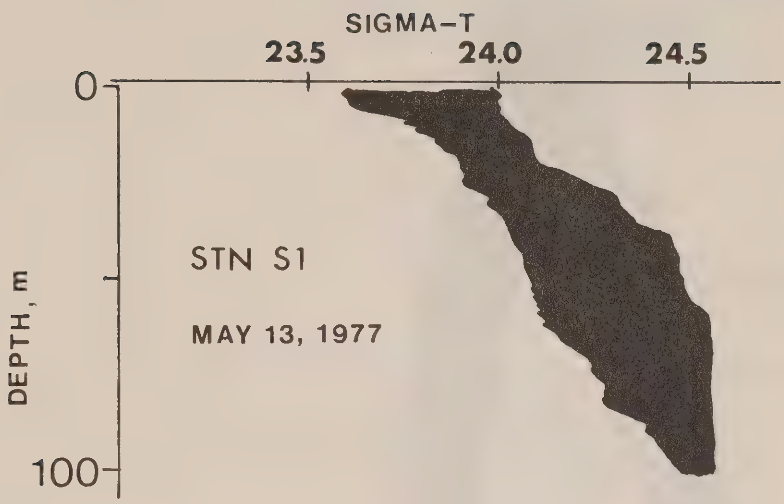

SIGMA - T
23.5
24.0
0
100
200
300
DEPTH, m
STN J8
APRIL 26, 1976

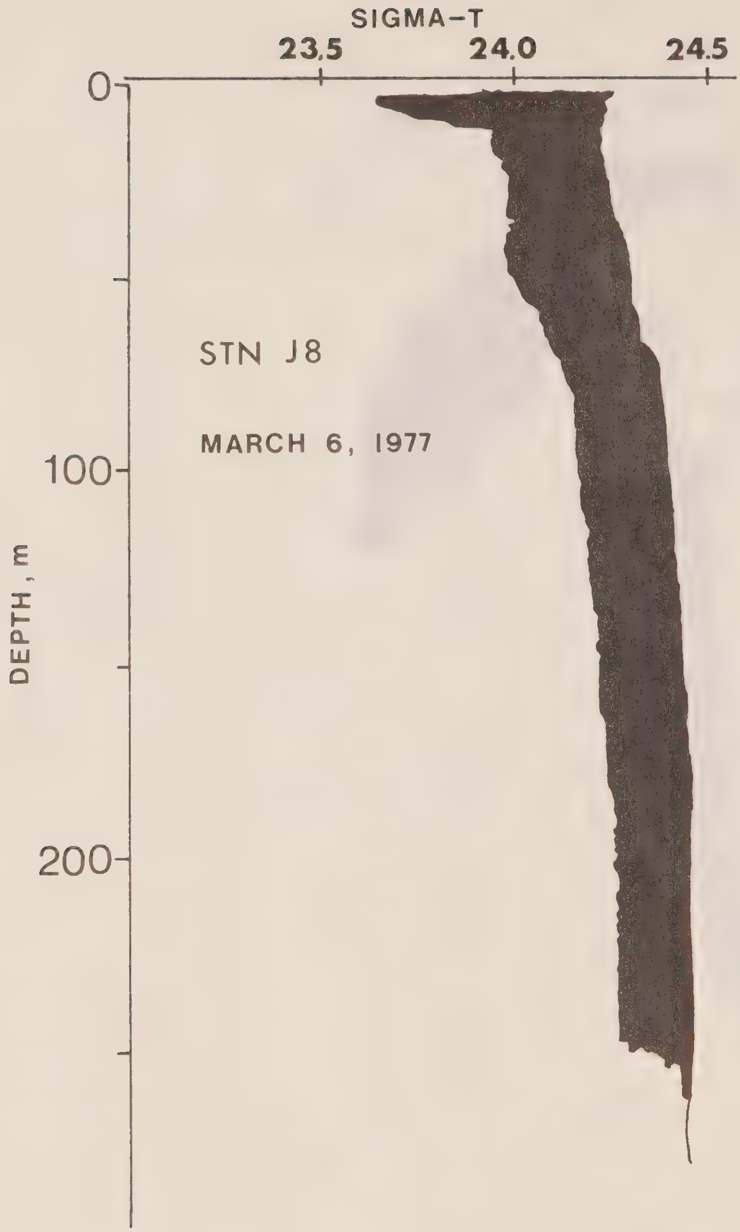

SIGMA-T
24.00
24.50
0
100
200
300
DEPTH (m)
STN J9
APRIL 25, 1976

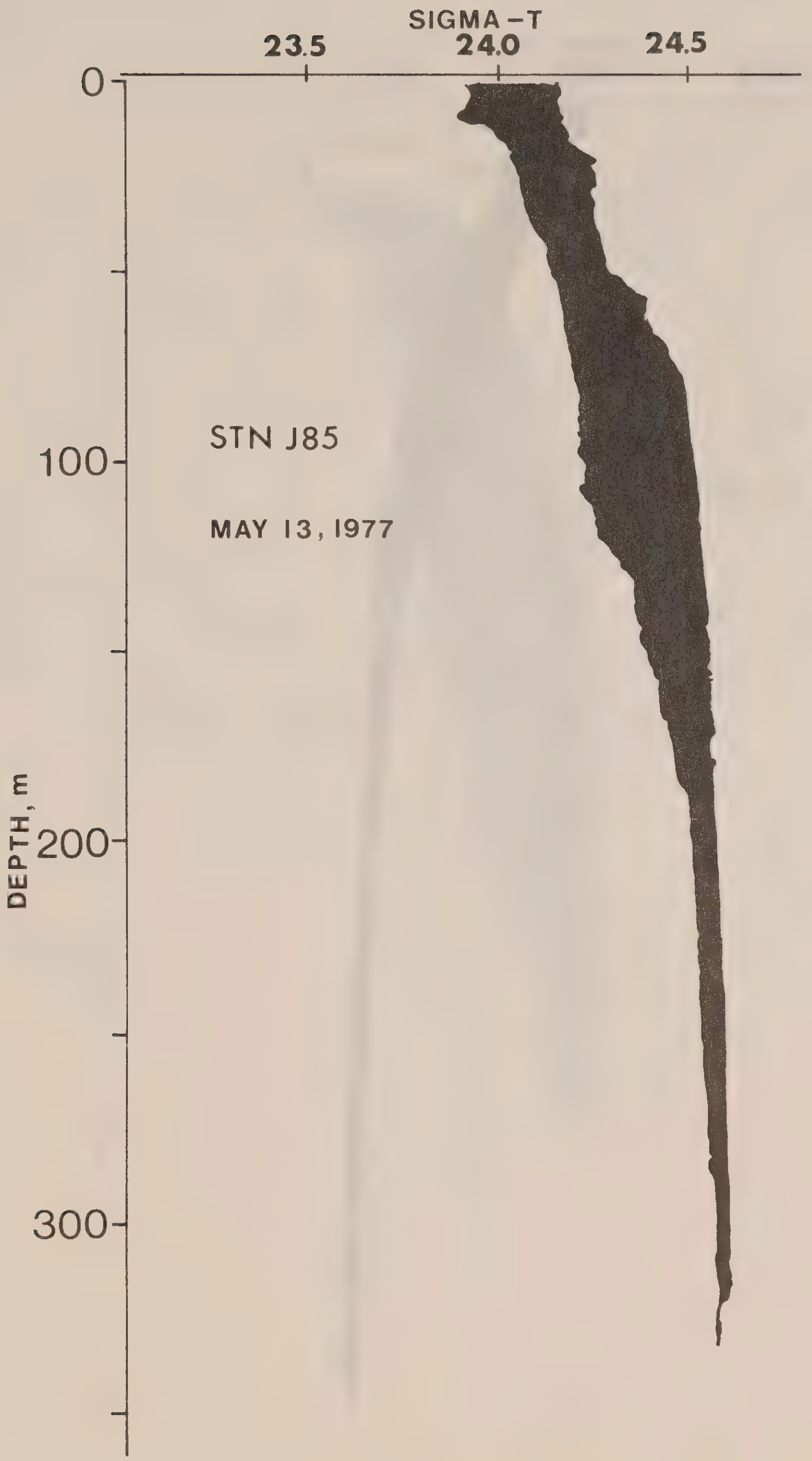

SIGMA-T
23.5
24.0
24.5
0
100
200
300
400
DEPTH, m
STN J11
APRIL 24, 1976

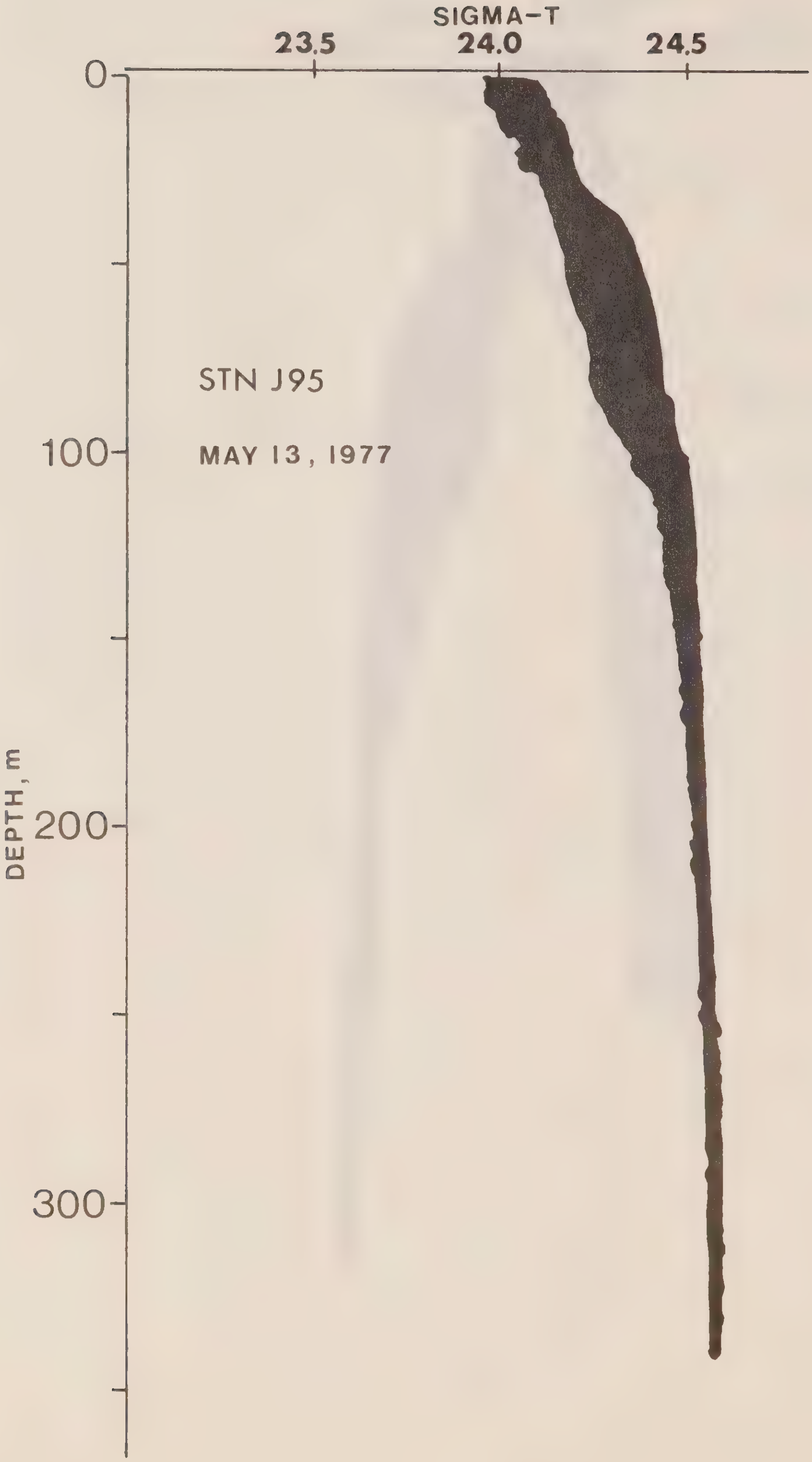

SIGMA-T
23.5
24.0
24.5
0
100
200
300
400
DEPTH, m
STN J13
APRIL 23, 1976

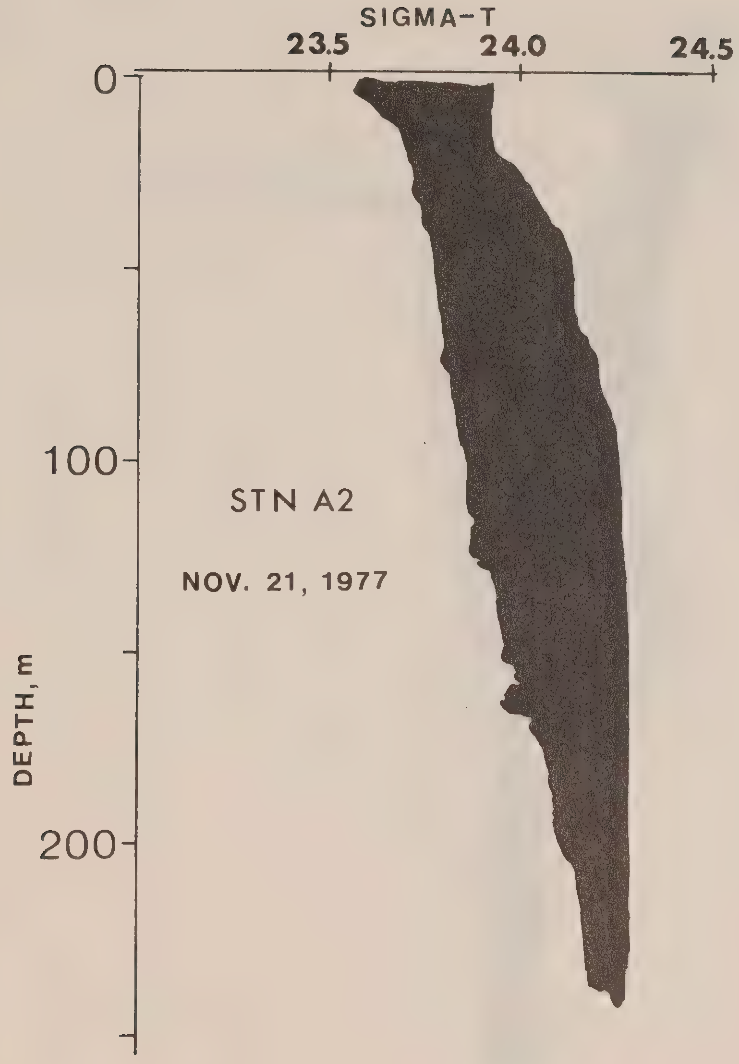

SIGMA-T
23.5
24.0
24.5
0
100
200
DEPTH, m
STN J6
MAY 12, 1977

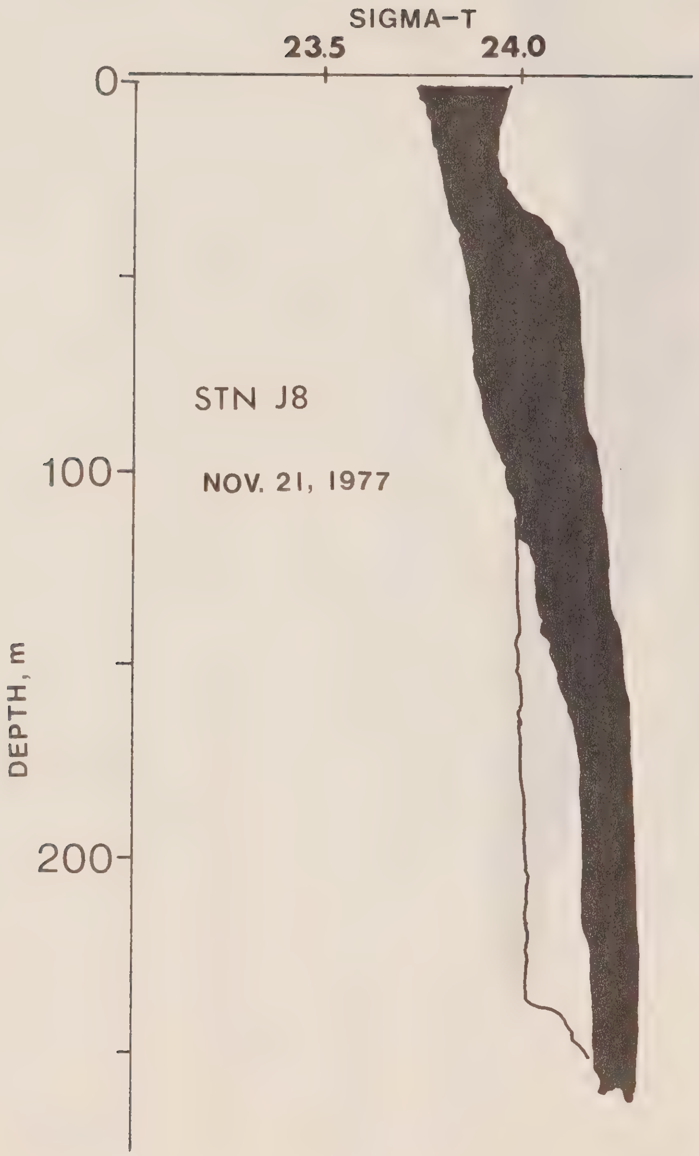

SIGMA-T
23.5
24.0
24.5
0
100
DEPTH, m
STN S1
MAY 13, 1977

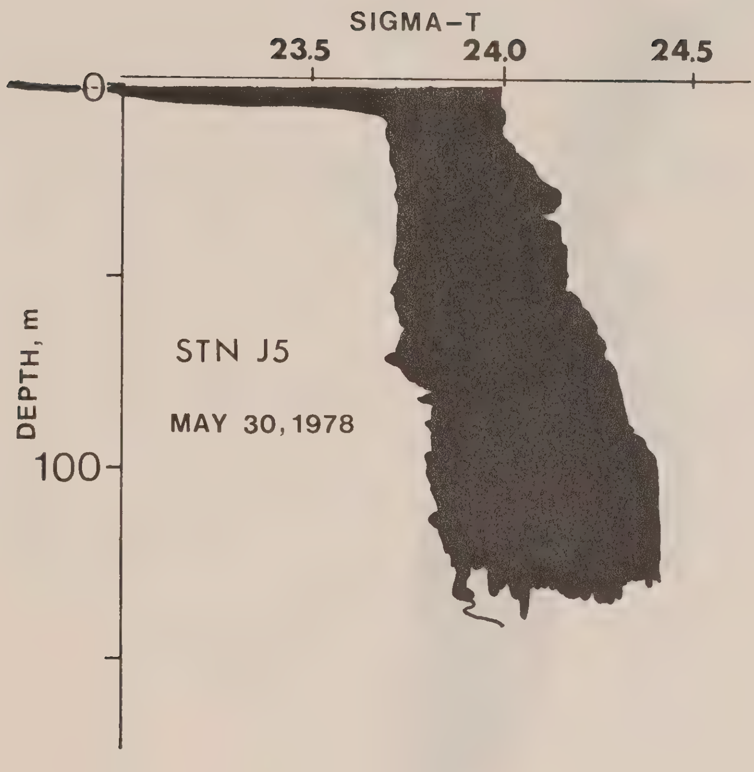

SIGMA-T
23.5
24.0
24.5
0
100
200
DEPTH, m
STN J8
MARCH 6, 1977

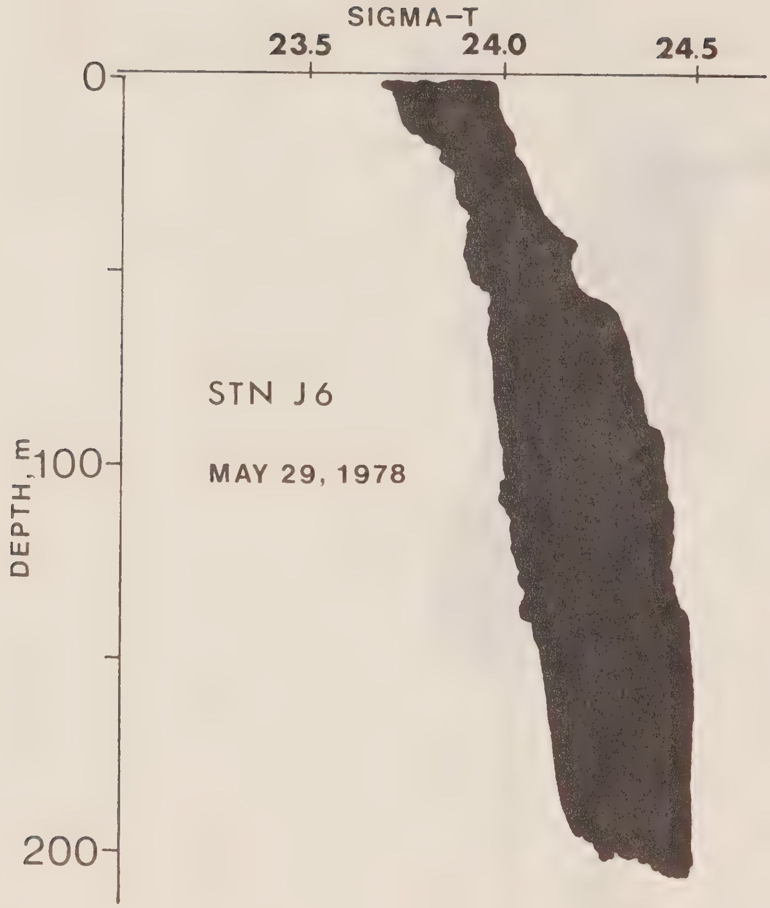

SIGMA-T
23.5
24.0
24.5
0
100
200
300
DEPTH, m
STN J85
MAY 13, 1977

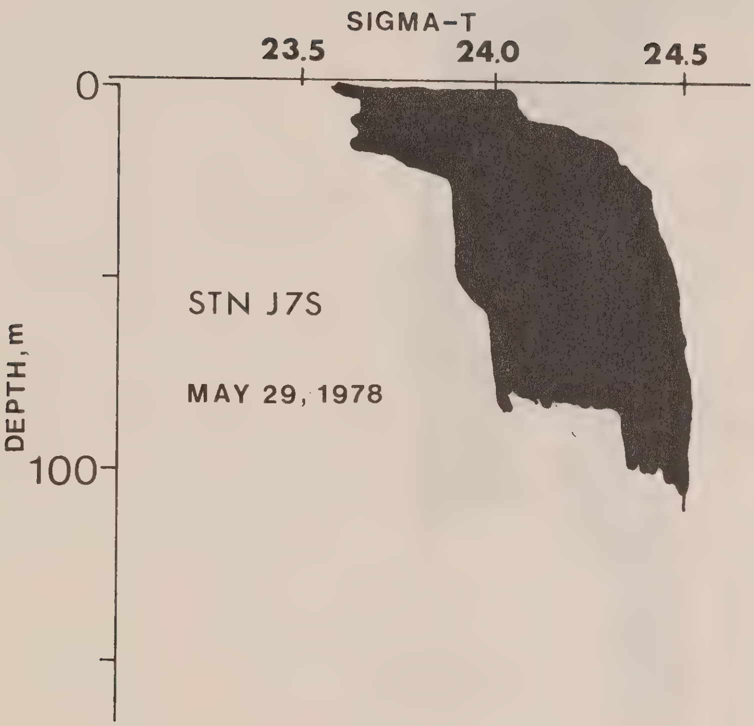

SIGMA-T
23.5
24.0
24.5
0
100
200
300
DEPTH, m
STN J95
MAY 13, 1977

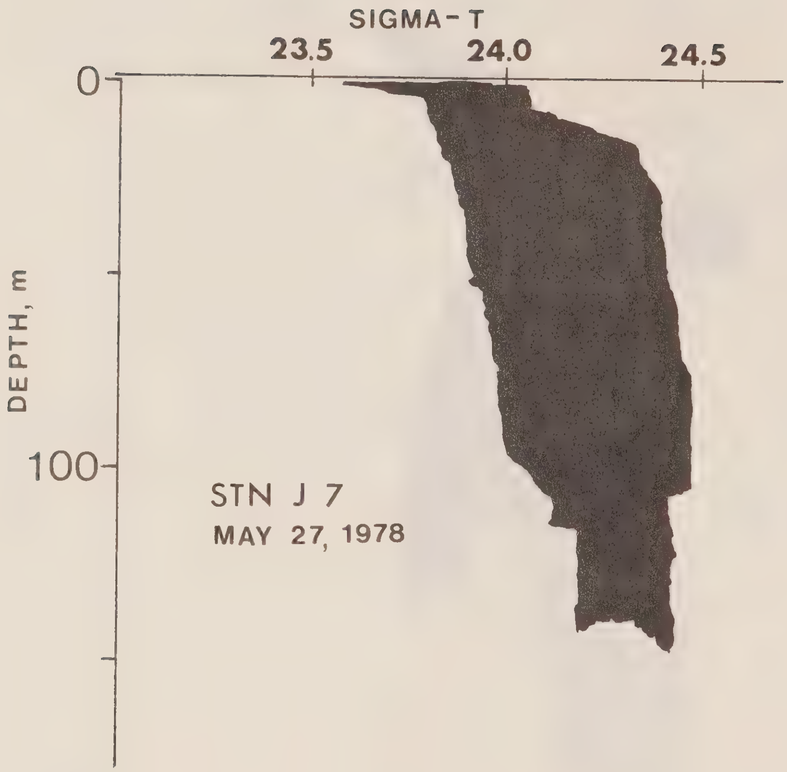

SIGMA-T
23.5
24.0
24.5
0
100
200
DEPTH, m
STN A2
NOV. 21, 1977

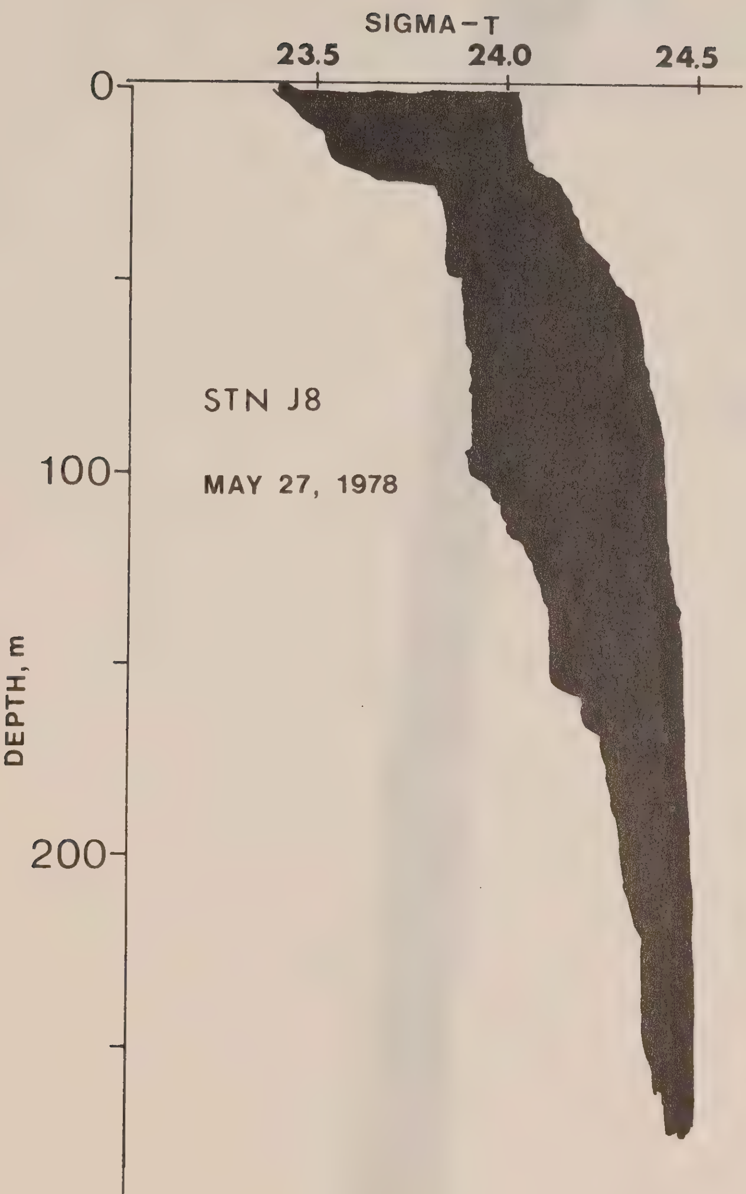

SIGMA-T
23.5
24.0
0
100
200
DEPTH, m
STN J8
NOV. 21, 1977

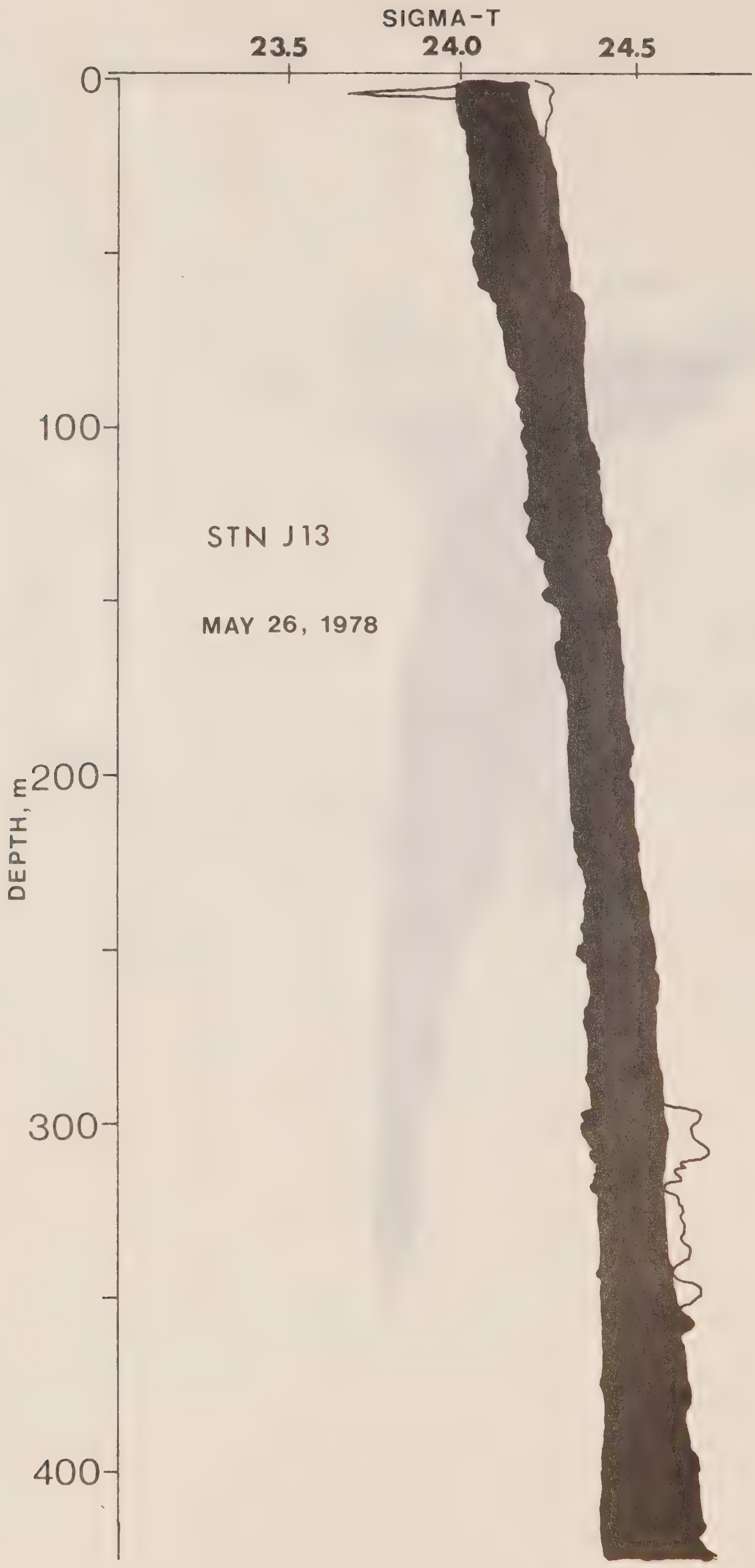

SIGMA-T
23.5
24.0
24.5
0
100
DEPTH, m
STN J5
MAY 30, 1978


SIGMA-T
23.5
24.0
24.5
0
100
200
DEPTH, m
STN J6
MAY 29, 1978


SIGMA-T
23.5
24.0
24.5
0
100
DEPTH, m
STN J7S
MAY 29, 1978

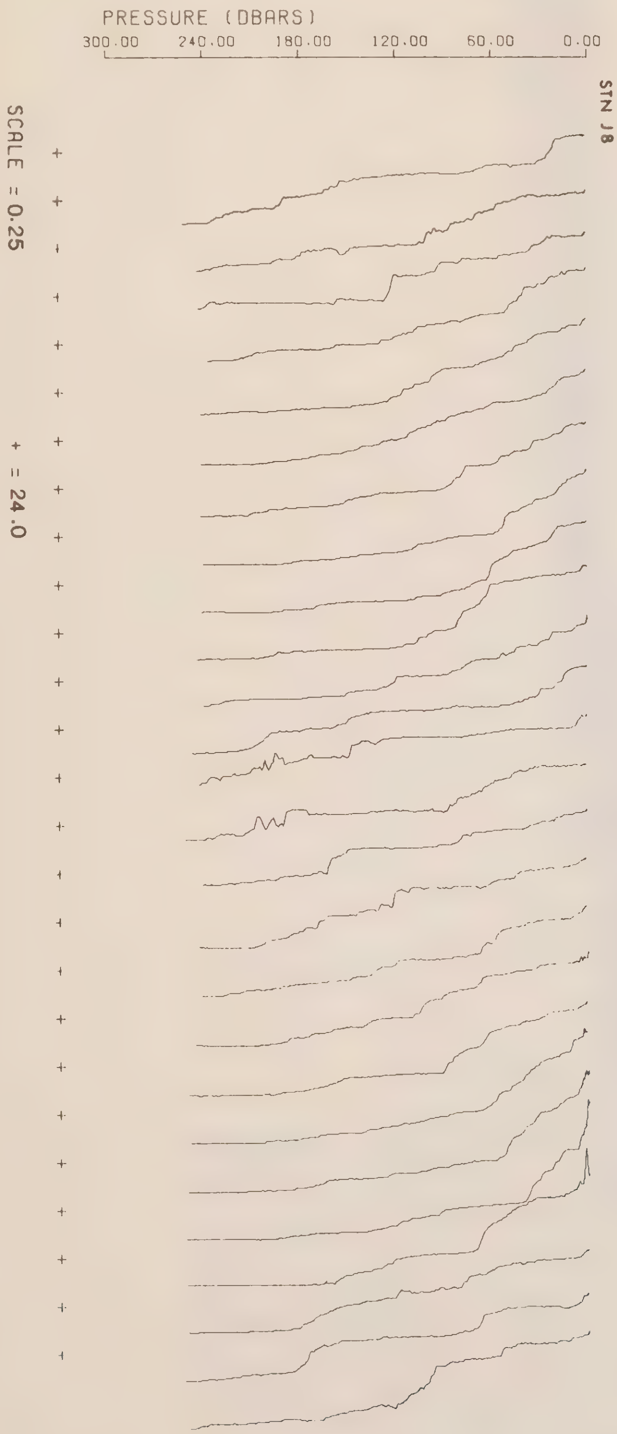

SIGMA-T
23.5
24.0
24.5
0
100
DEPTH, m
STN J 7
MAY 27, 1978


SIGMA-T
23.5
24.0
24.5
0
100
200
DEPTH, m
STN J8
MAY 27, 1978

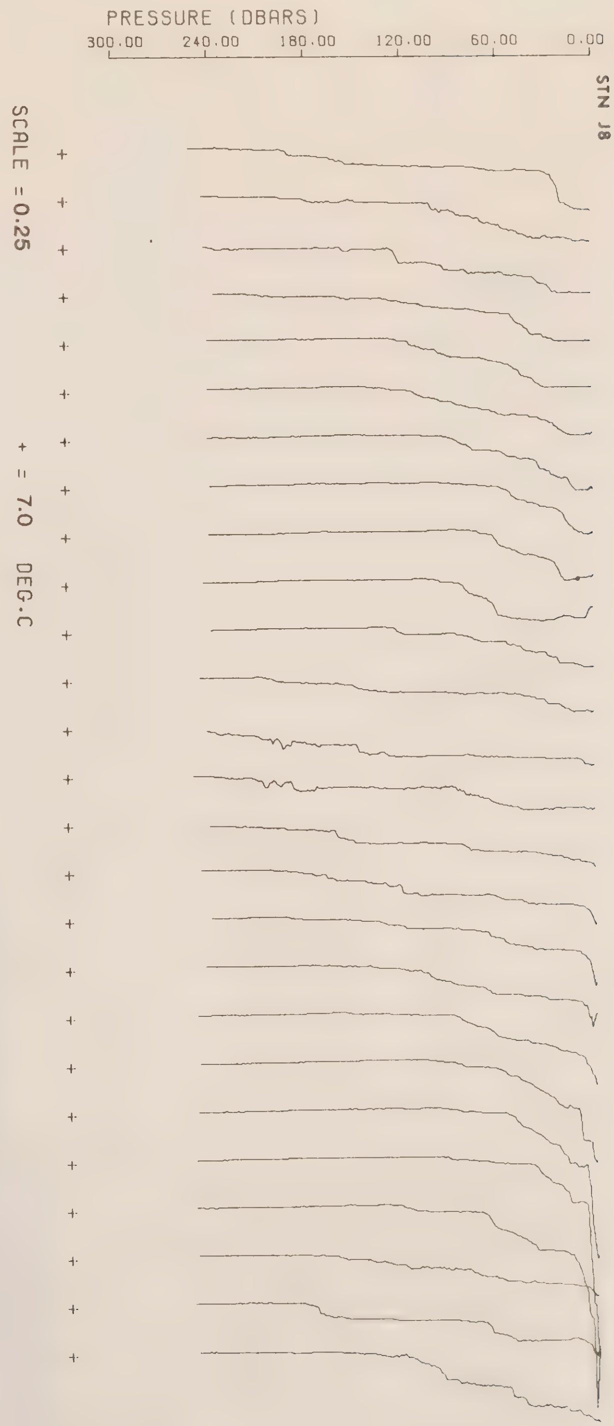

SIGMA-T
23.5
24.0
24.5
0
100
200
300
400
DEPTH, m
STN J13
MAY 26, 1978

## 5.2 TIME-SERIES PROFILES: TEMPERATURE AND SIGMA-T

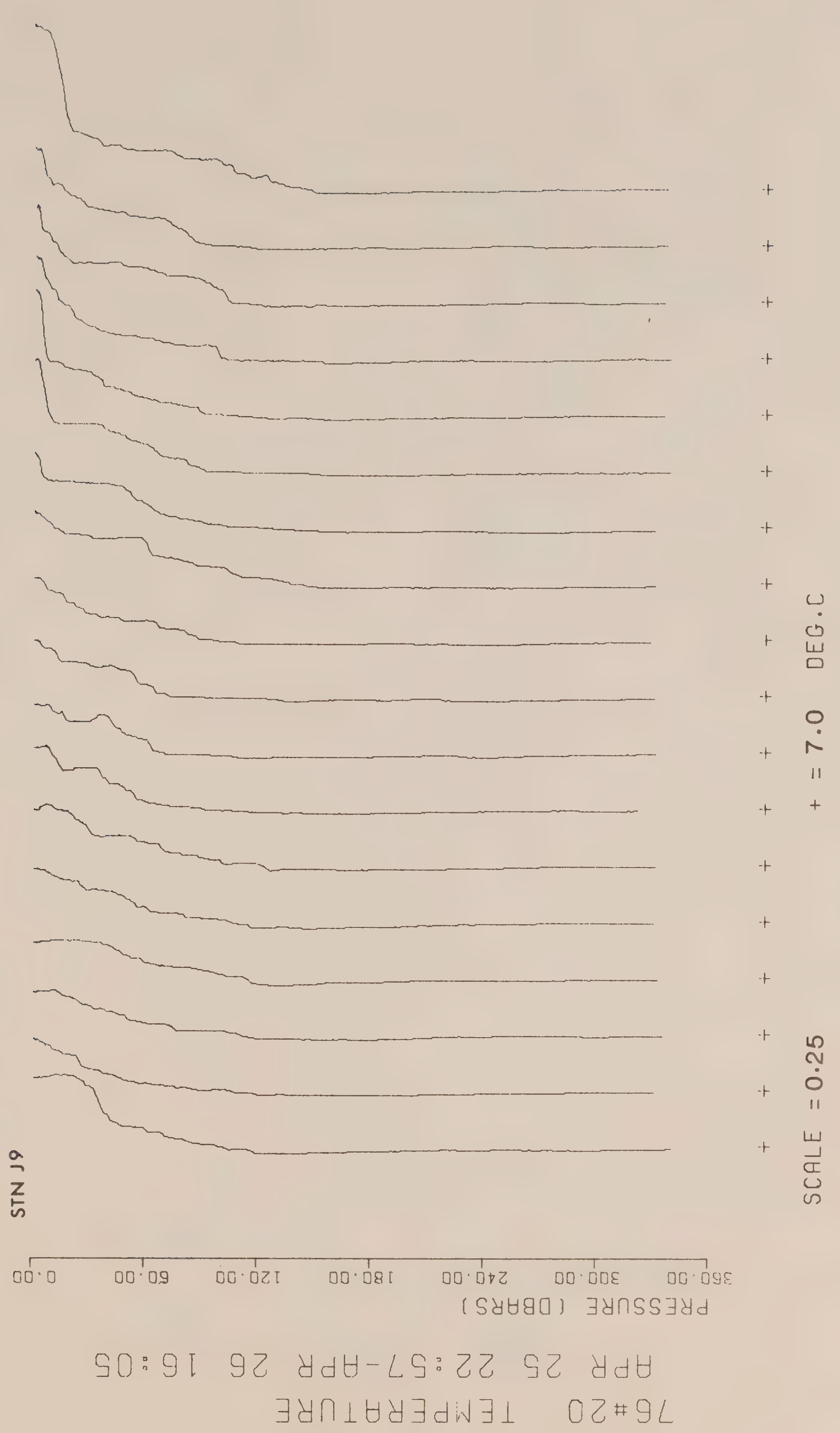
Profiles of temperature ($^{\circ}C$) and sigma-t for selected time-series locations. Each series begins at the left and casts are offset to the right by equal amounts regardless of the actual time increment between casts (typically 1 hour). Plus sign gives reference value for each profile; scale gives the unit separation between adjacent pluses (in $C^{\circ}$ for temperature). Pressure is in dbars where depth in metres = Pressure (db) - 1% of pressure (db). Cruise number and time span of observations are shown on left. Salinity profiles are essentially identical to sigma-t profiles and have therefore been omitted. Times are Pacific Standard Time.

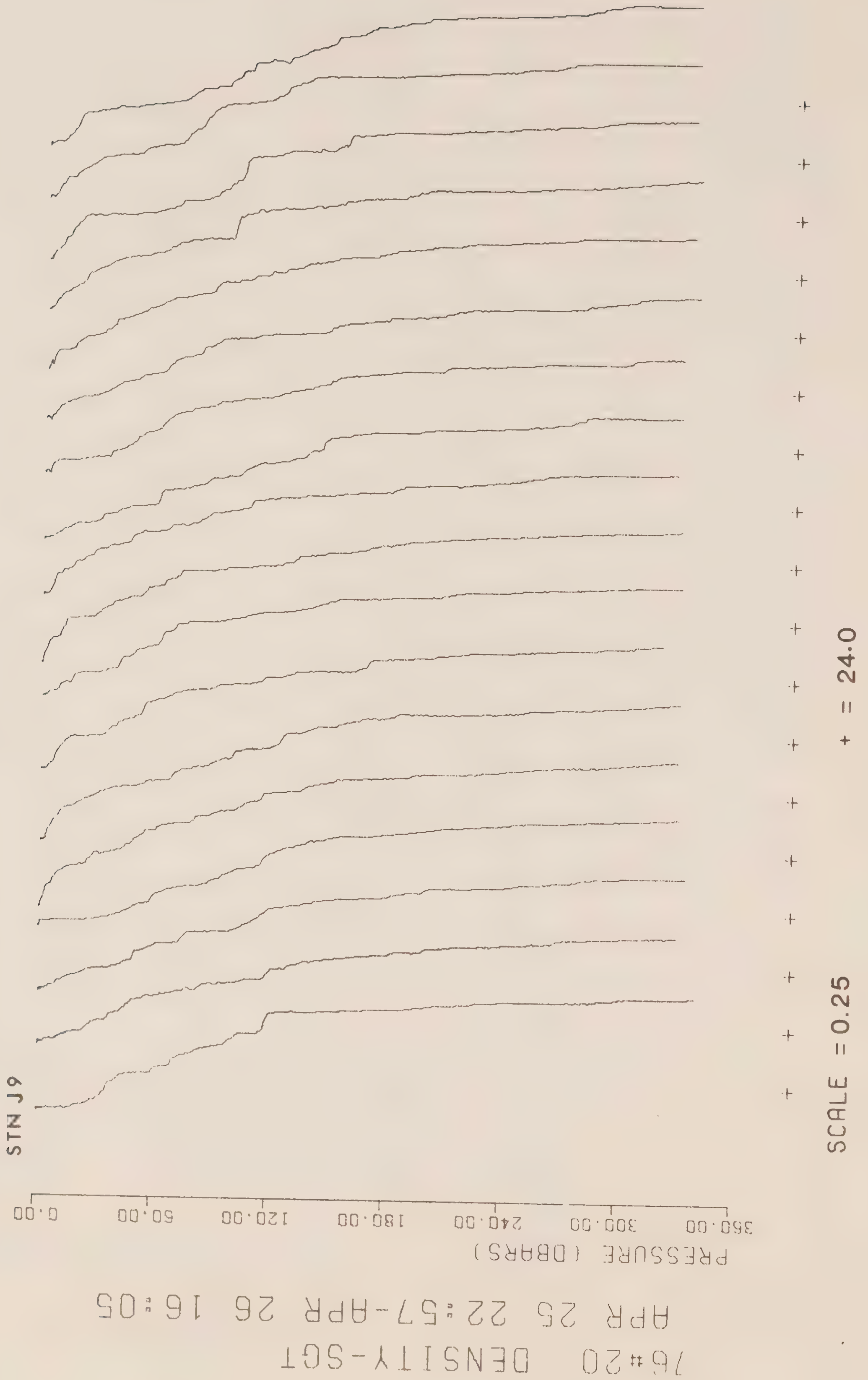


76#20 DENSITY-SGT
APR 26 19:00-APR 27 19:58
PRESSURE (DBARS)
300.00 240.00 180.00 120.00 60.00 0.00
STN J8
SCALE = 0.25
+ = 24.0

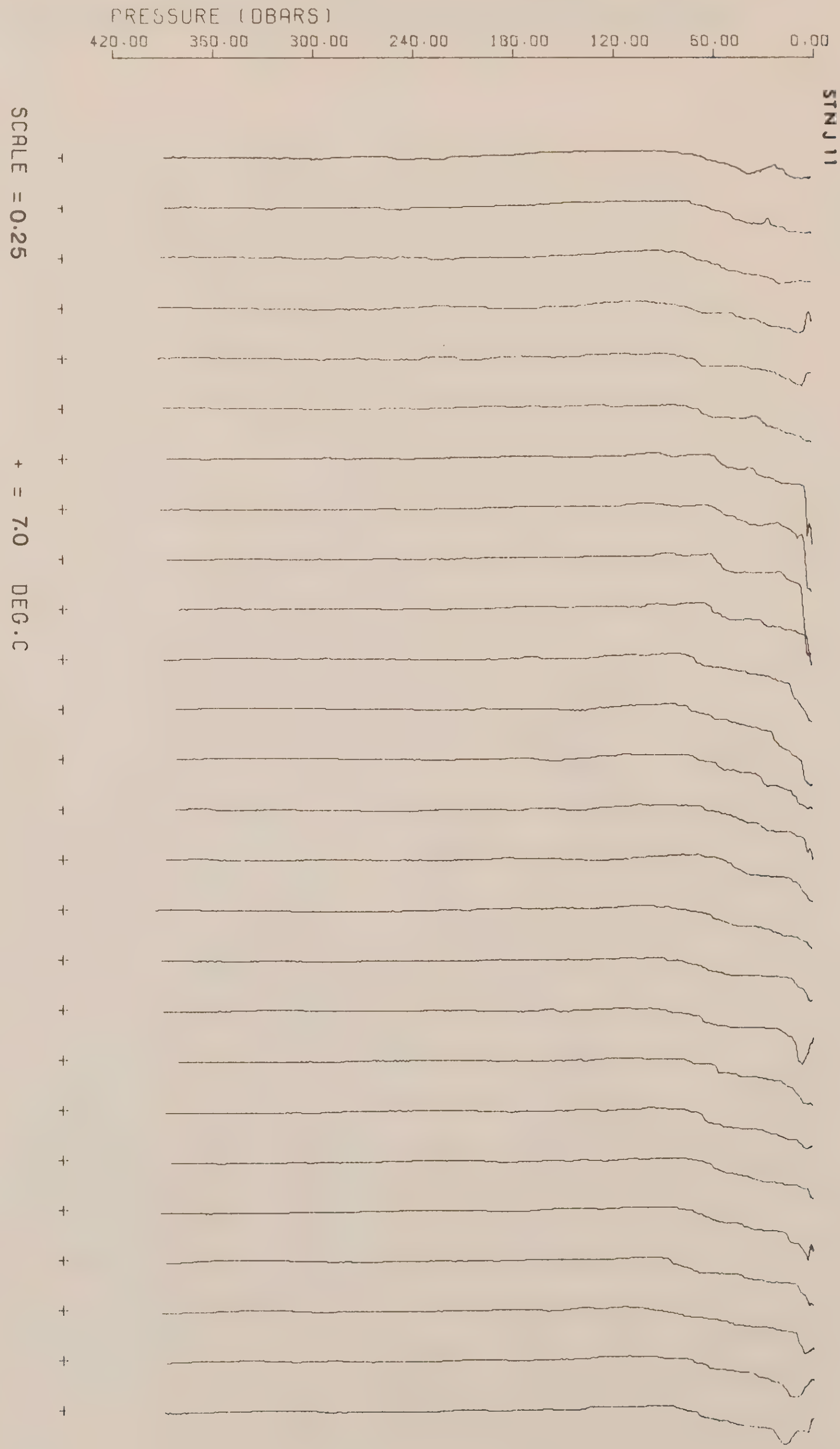
76#20 TEMPERATURE
APR 26 19:00-APR 27 19:58
PRESSURE (DBARS)
300.00 240.00 180.00 120.00 60.00 0.00
STN J8
SCALE = 0.25
+ = 7.0 DEG.C

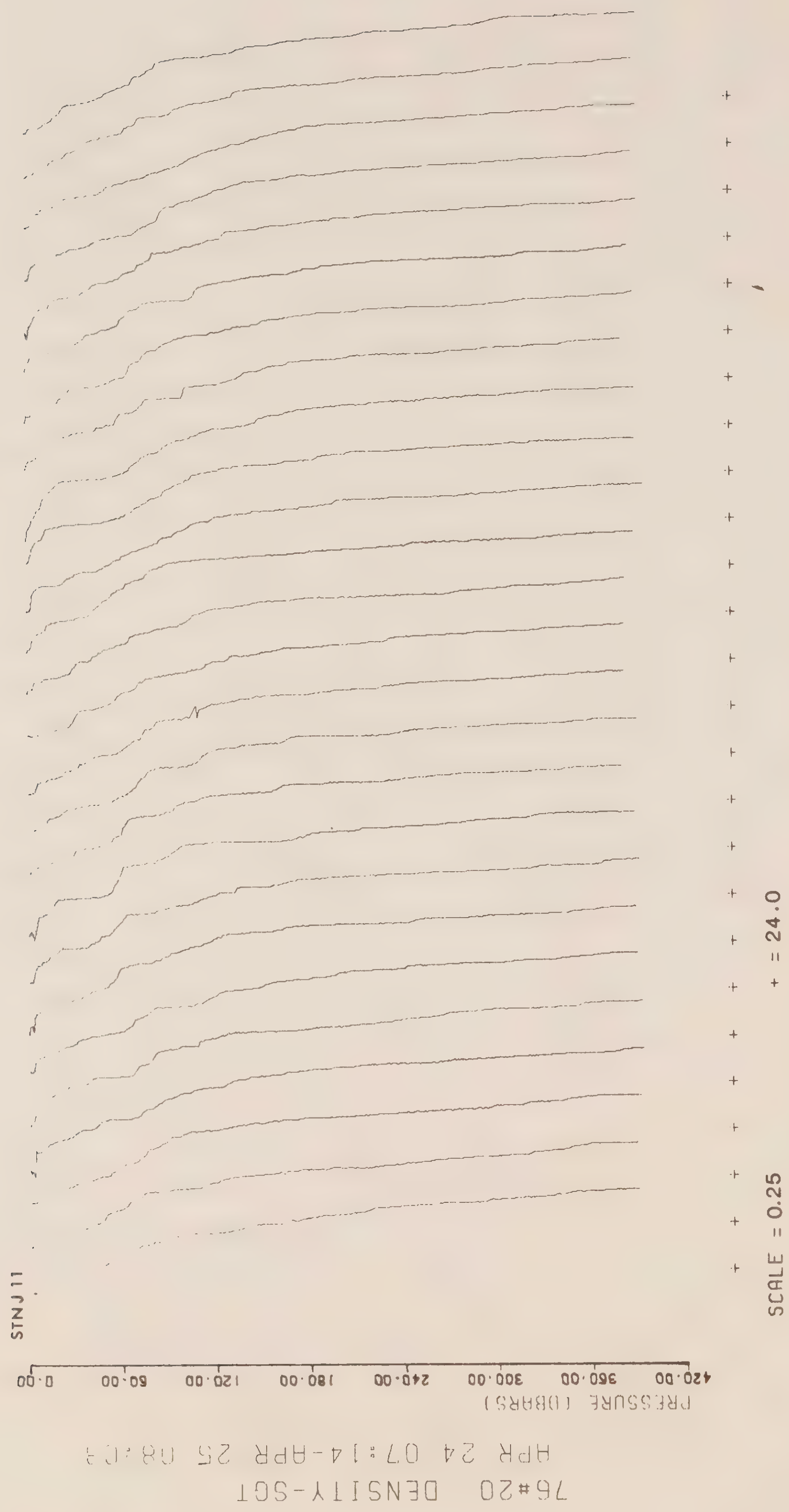

STN J9
SCALE = 0.25
+ = 7.0 DEG.C
0.00
60.00
120.00
180.00
240.00
300.00
360.00
PRESSURE (DBARS)
APR 25 22:57-APR 26 16:05
76#20 TEMPERATURE

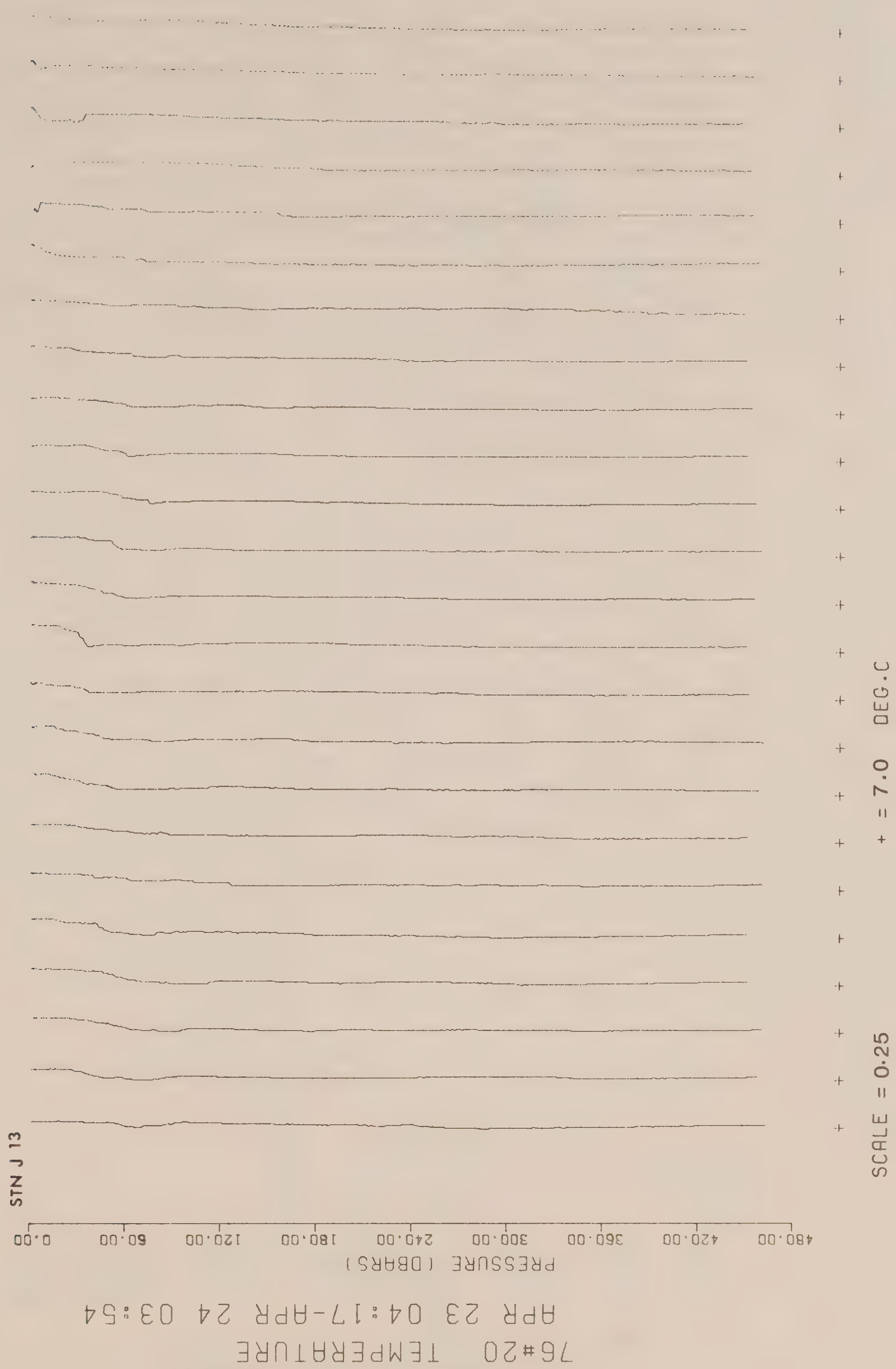

STN J9
SCALE = 0.25
+ = 24.0
0.00
60.00
120.00
180.00
240.00
300.00
360.00
PRESSURE (DBARS)
APR 25 22:57-APR 26 16:05
76#20 DENSITY-SGT

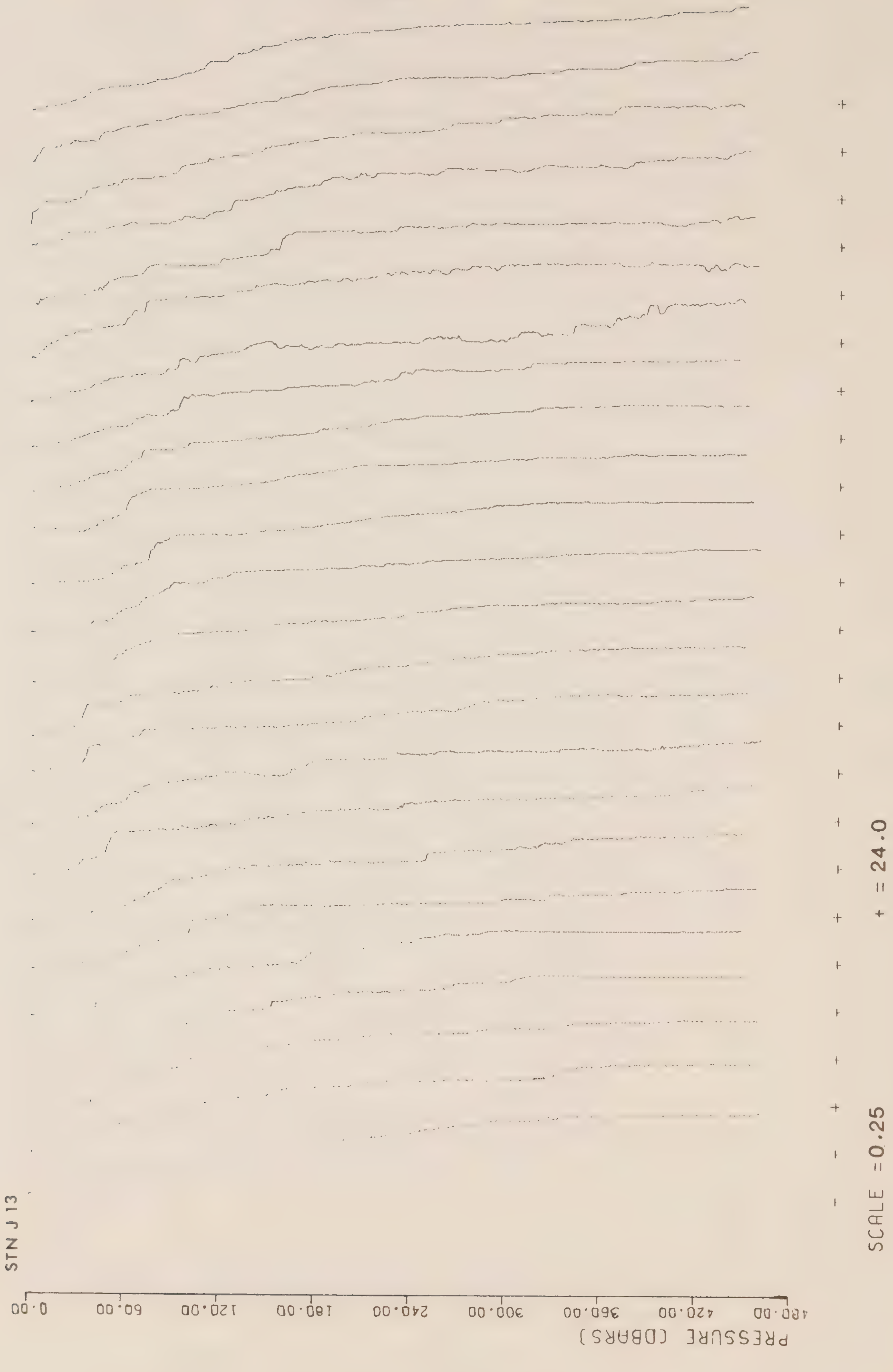
**76-20** TEMPERATURE

APR 24 07:14-APR 25 08:03



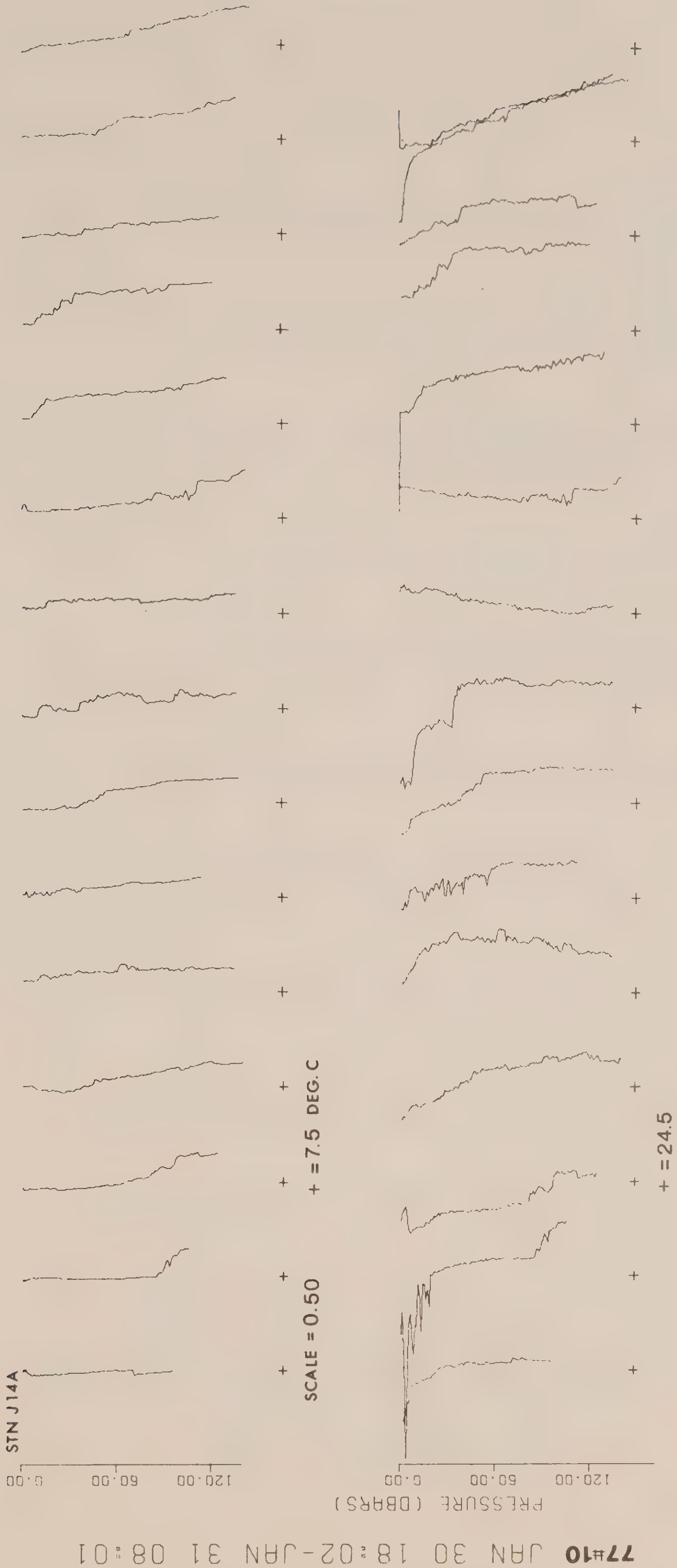

76#20 DENSITY-SGT
APR 24 07:14-APR 25
PRESSURE (DBARS)
0.00
60.00
120.00
180.00
240.00
300.00
360.00
420.00
STNJ11
SCALE = 0.25
+ = 24.0

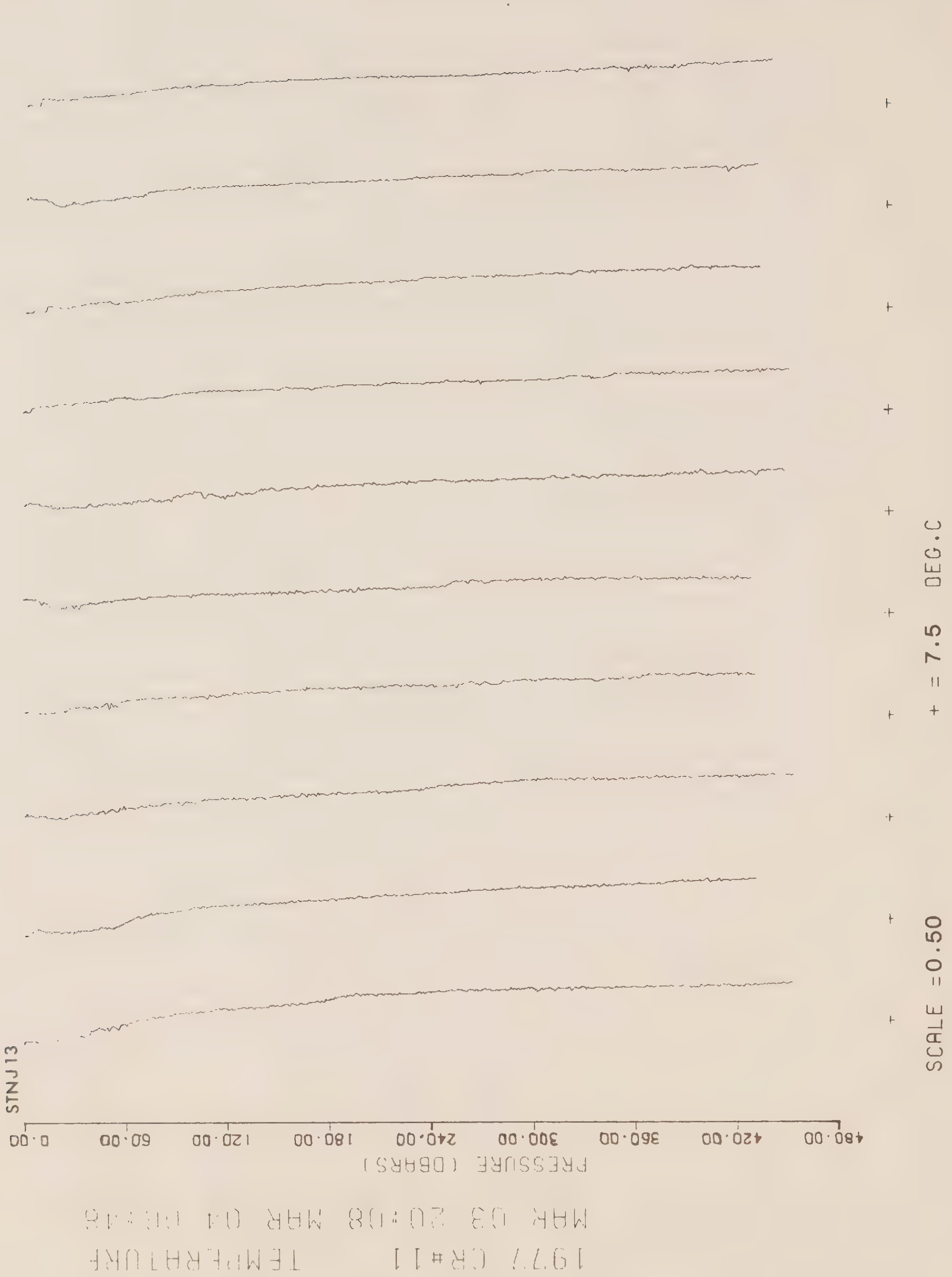

STN J 13
SCALE = 0.25
+ = 7.0 DEG.C
0.00
60.00
120.00
180.00
240.00
300.00
360.00
420.00
480.00
PRESSURE (DBARS)
APR 23 04:17-APR 24 03:54
76#20 TEMPERATURE

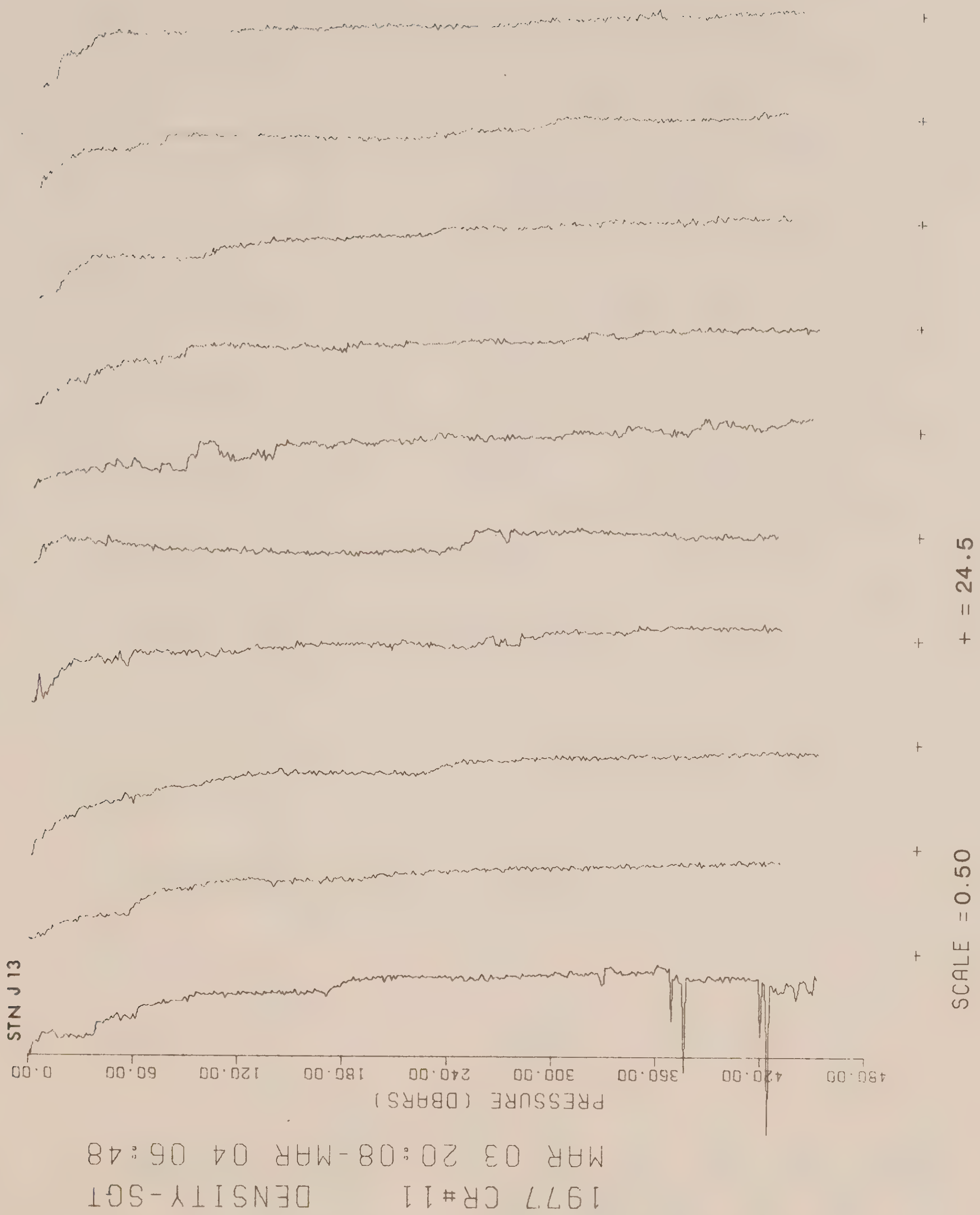


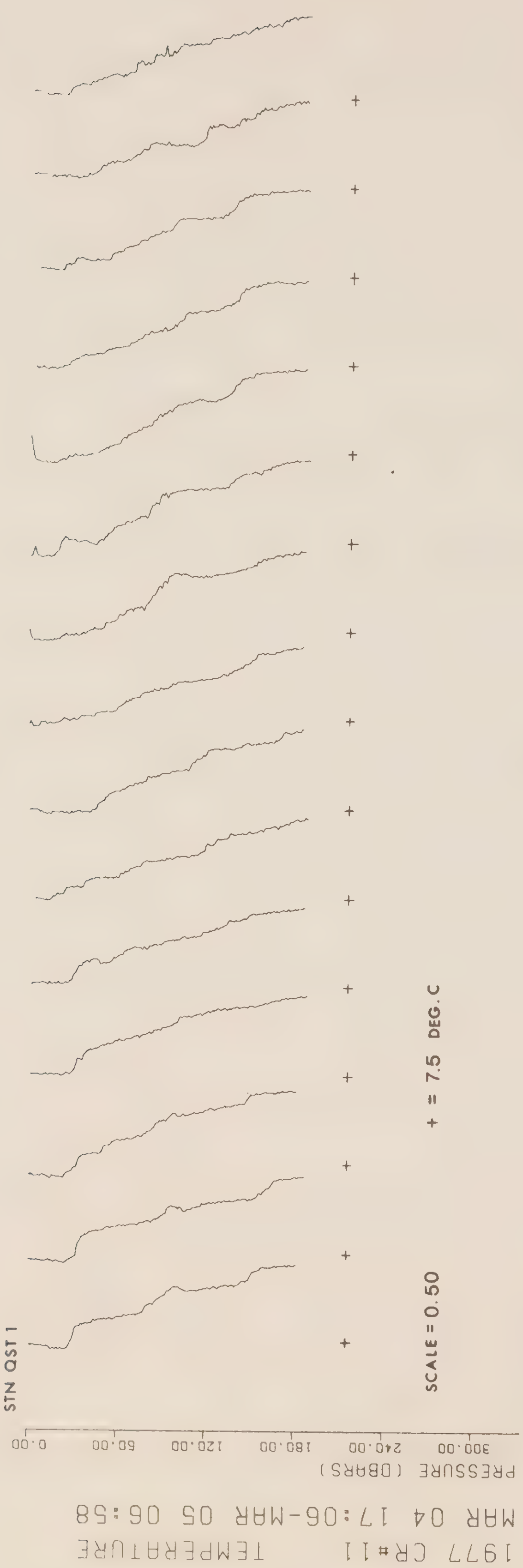

APR 23 04:17-APR 24 03:54

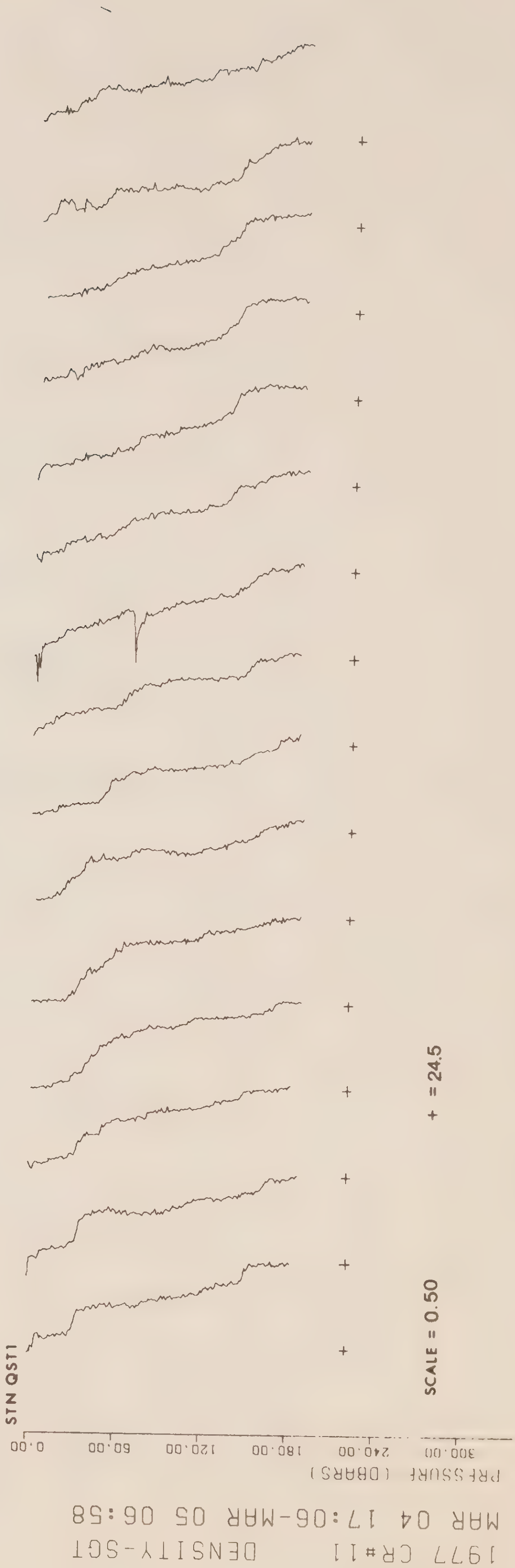
**76#20 DENSITY-SGT**


STN J14A
SCALE = 0.50
+ = 7.5 DEG. C
+ = 24.5
0.00
60.00
120.00
0.00
60.00
120.00
PRESSURE (DBARS)
77#10 JAN 30 18:02-JAN 31 08:01

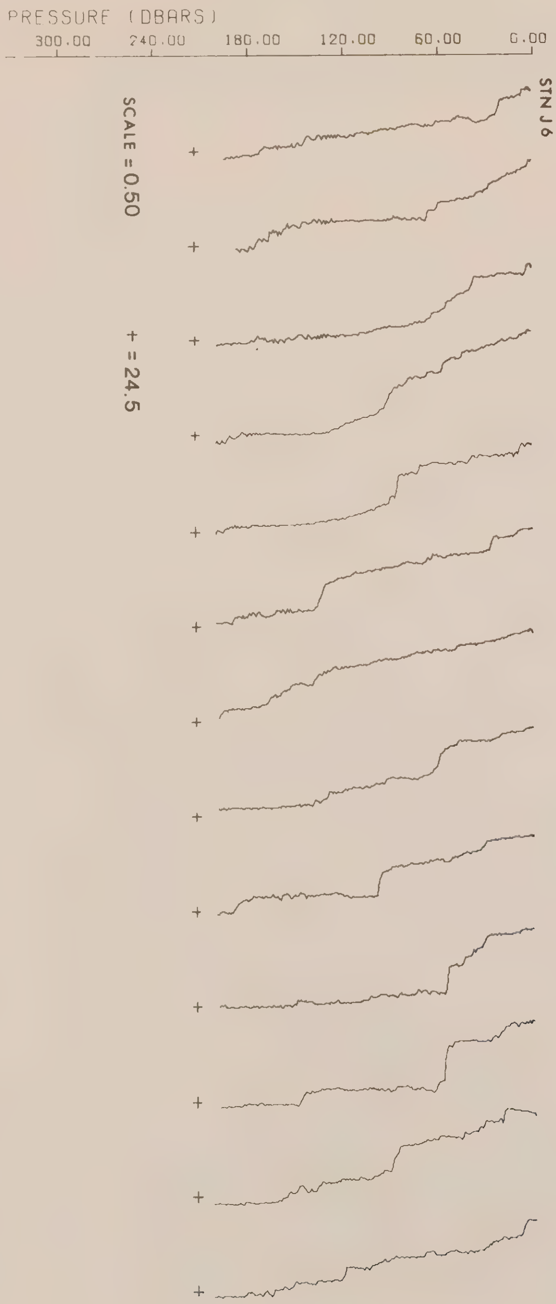

1977 CR#11 TEMPERATURE
MAR 03 20:08 MAR 04
PRESSURE (DBARS)
0.00
60.00
120.00
180.00
240.00
300.00
360.00
420.00
480.00
STNJ13
SCALE =0.50
+ = 7.5 DEG.C


STN J 13
+ = 24.5
SCALE = 0.50
0.00
60.00
120.00
180.00
240.00
300.00
360.00
420.00
480.00
PRESSURE (DBARS)
MAR 03 20:08-MAR 04 06:48
1977 CR#11 DENSITY-SGT

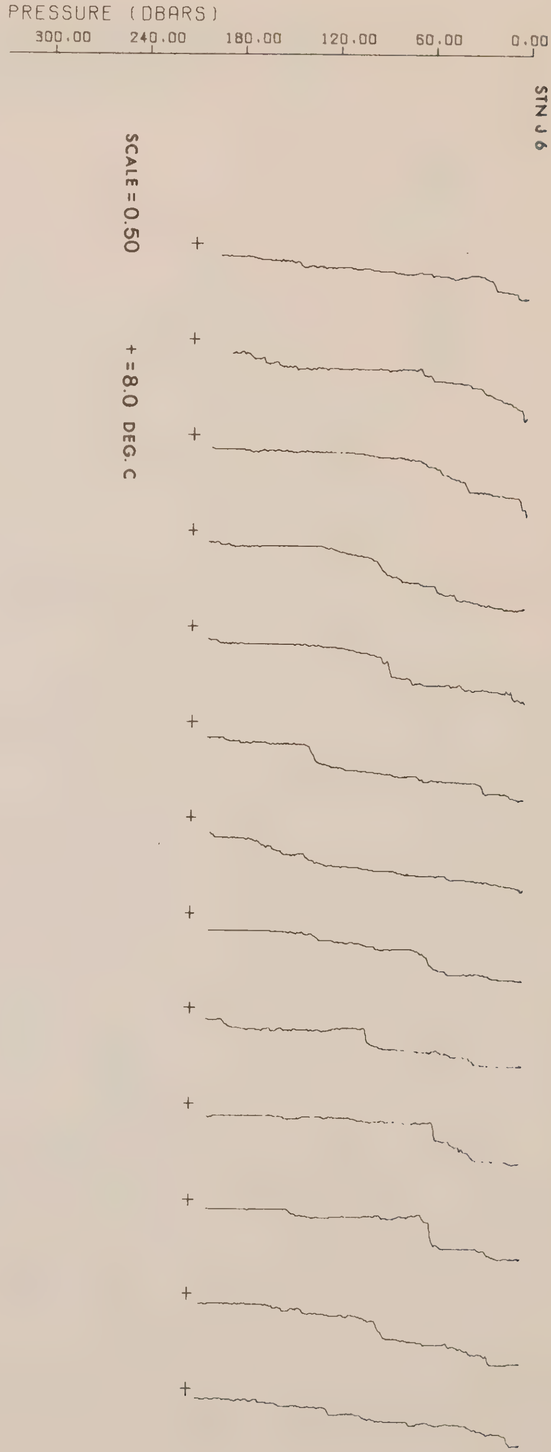

STN QST 1
SCALE = 0.50
+ = 7.5 DEG. C
0.00
60.00
120.00
180.00
240.00
300.00
PRESSURE (DBARS)
MAR 04 17:06-MAR 05 06:58
1977 CR#11 TEMPERATURE

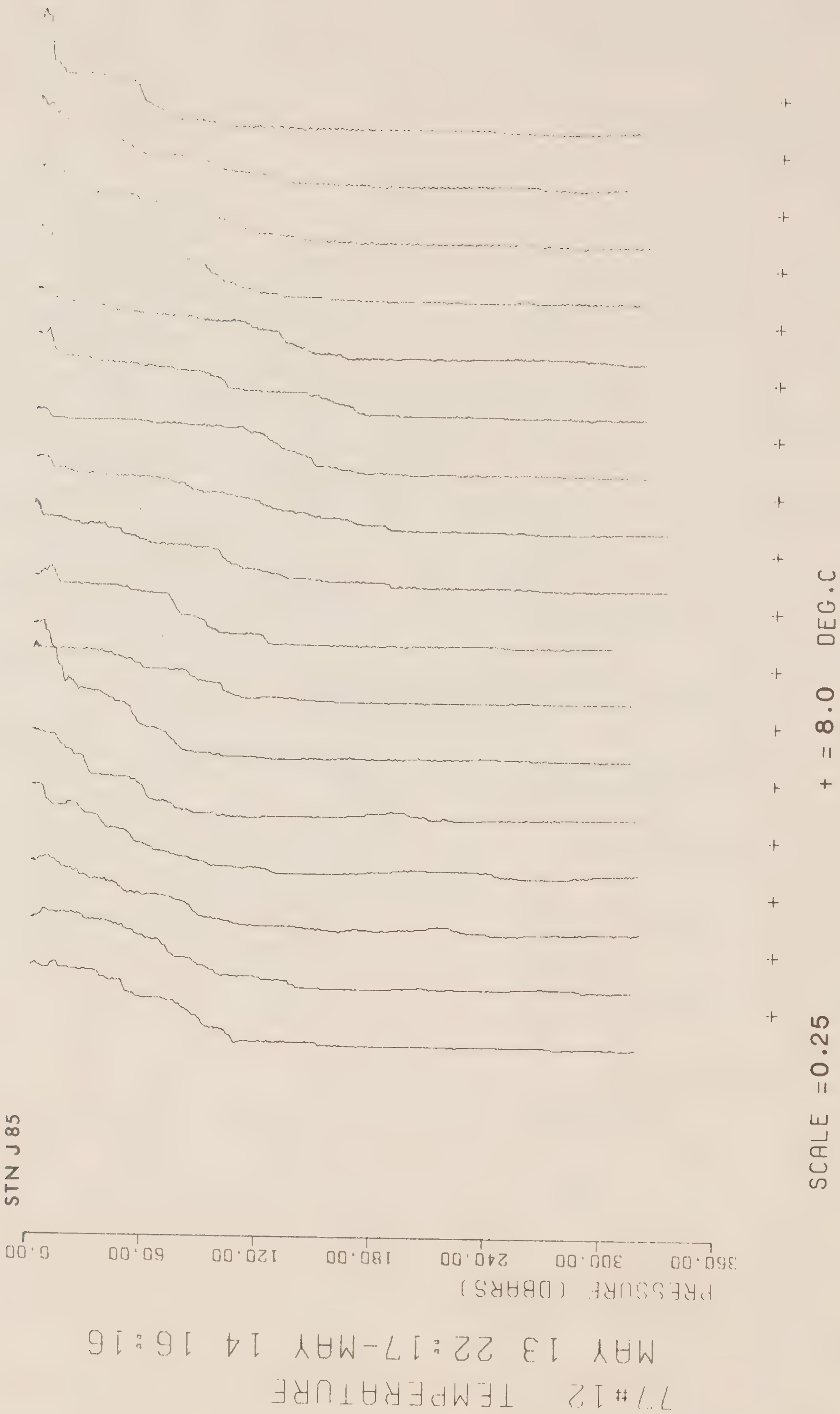

STN QST1
SCALE = 0.50
+ = 24.5
0.00
60.00
120.00
180.00
240.00
300.00
PRESSURE (DBARS)
MAR 04 17:06-MAR 05 06:58
1977 CR#11 DENSITY-SGT

77#12 DENSITY-SGT
MAY 12 14:17-MAY 13 13:56

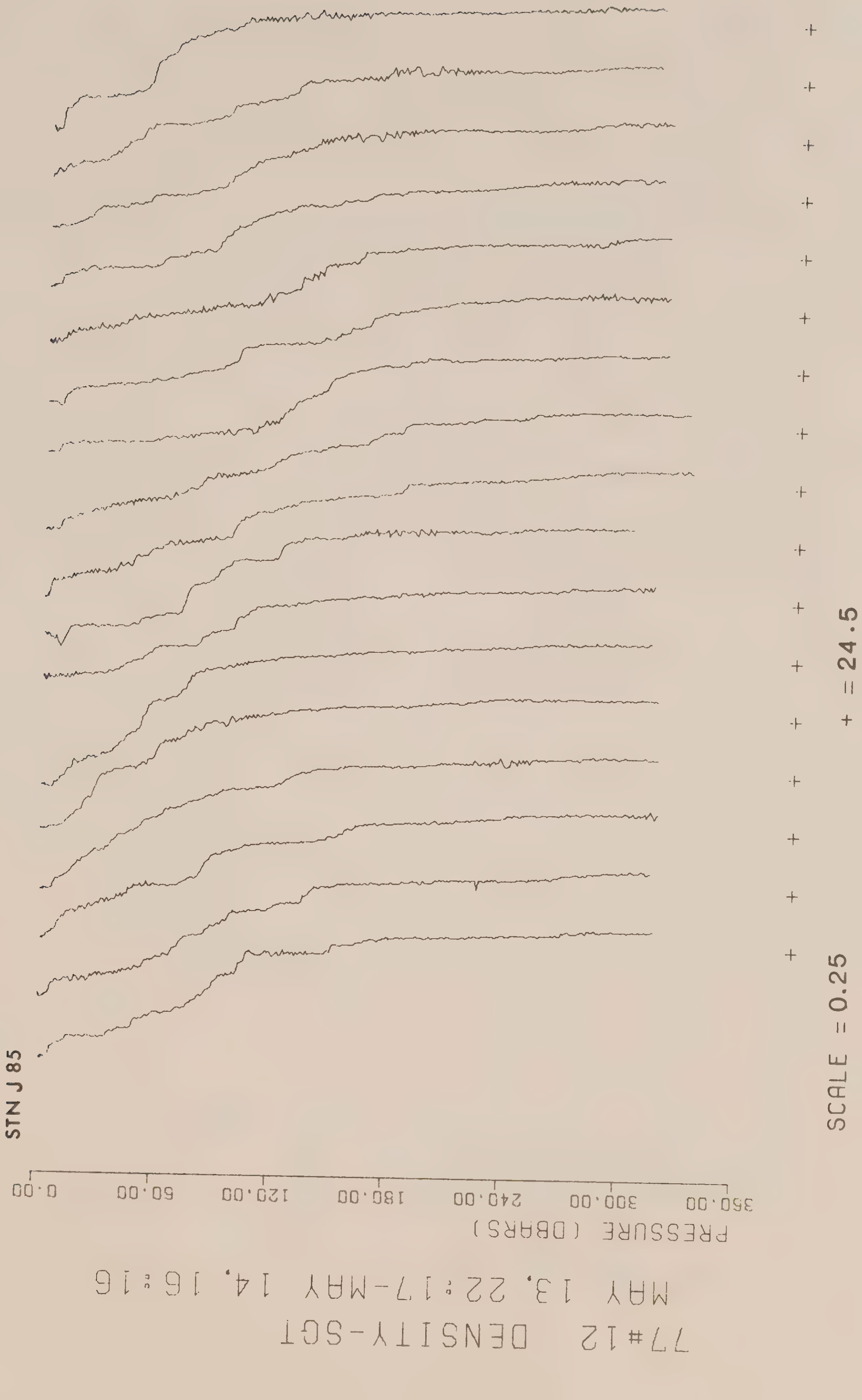



77#12 TEMPERATURE
MAY 12, 14:17-MAY 13, 01:58

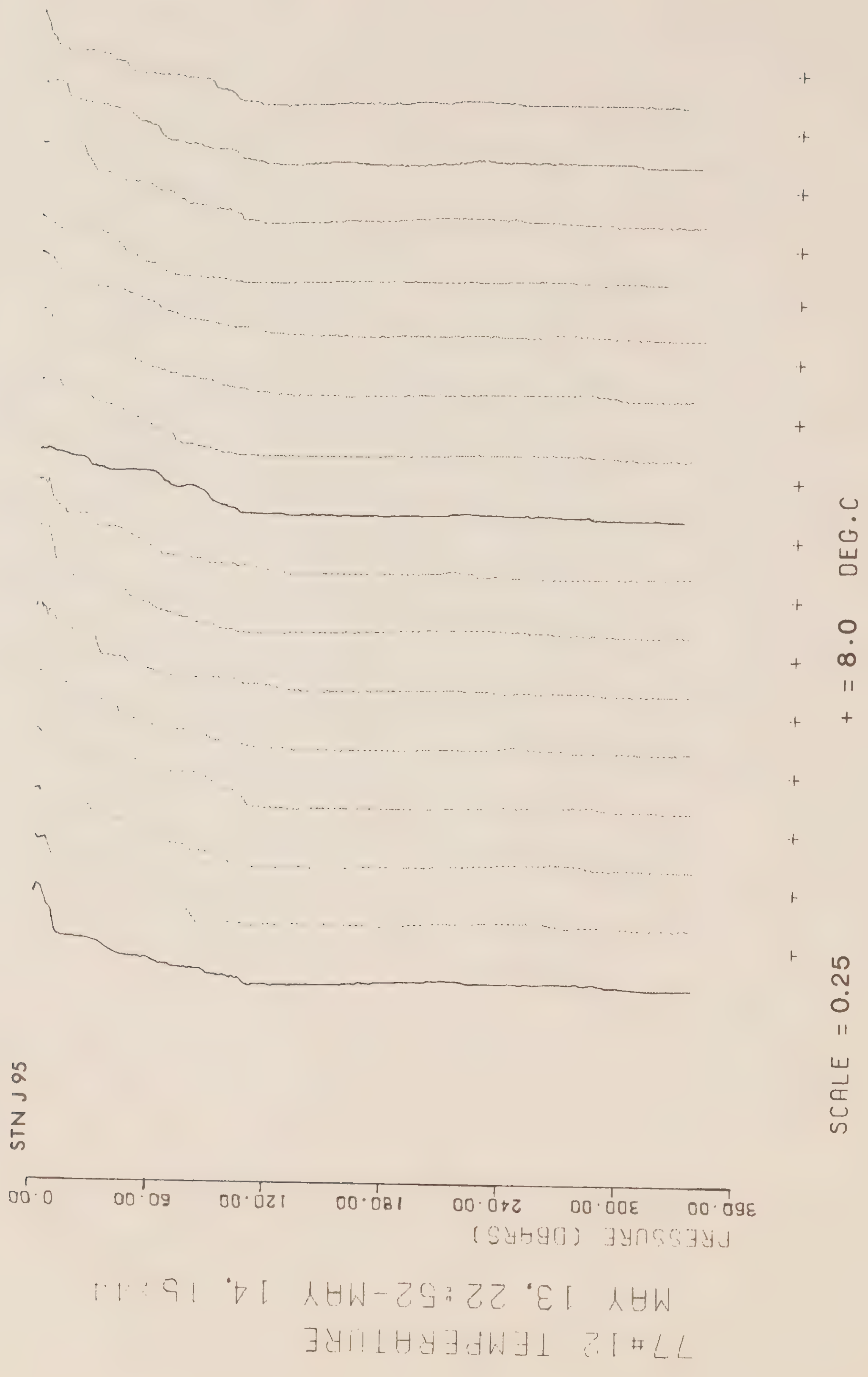


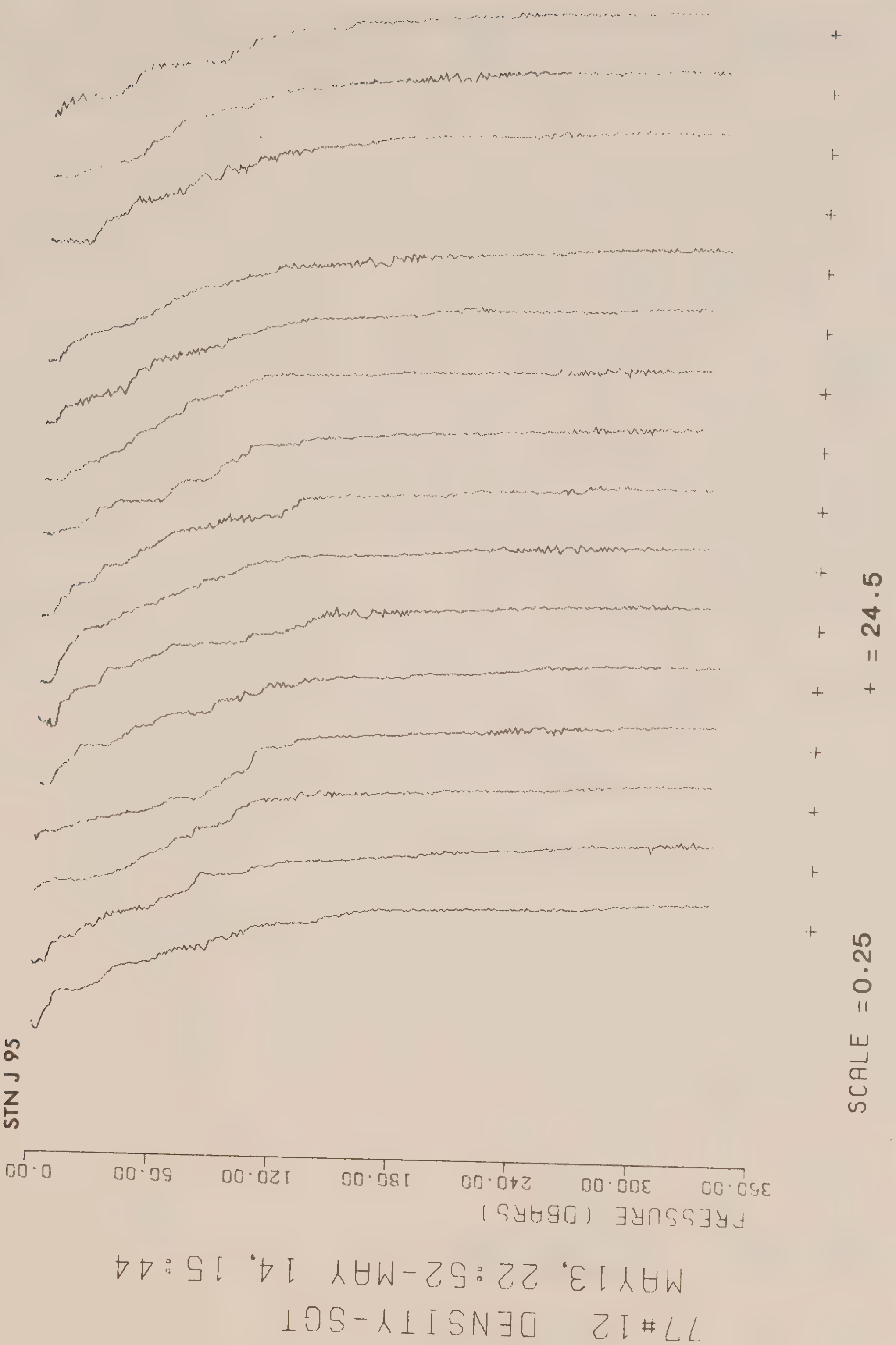


STN J85
SCALE =0.25
+ = 8.0 DEG.C
0.00
60.00
120.00
180.00
240.00
300.00
360.00
PRESSURE (DBARS)
MAY 13 22:17-MAY 14 16:16
77#12 TEMPERATURE



STN J 85
SCALE = 0.25
+ = 24.5
0.00
60.00
120.00
180.00
240.00
300.00
350.00
PRESSURE (DBARS)
MAY 13, 22:17-MAY 14, 16:16
77#12 DENSITY-SGT

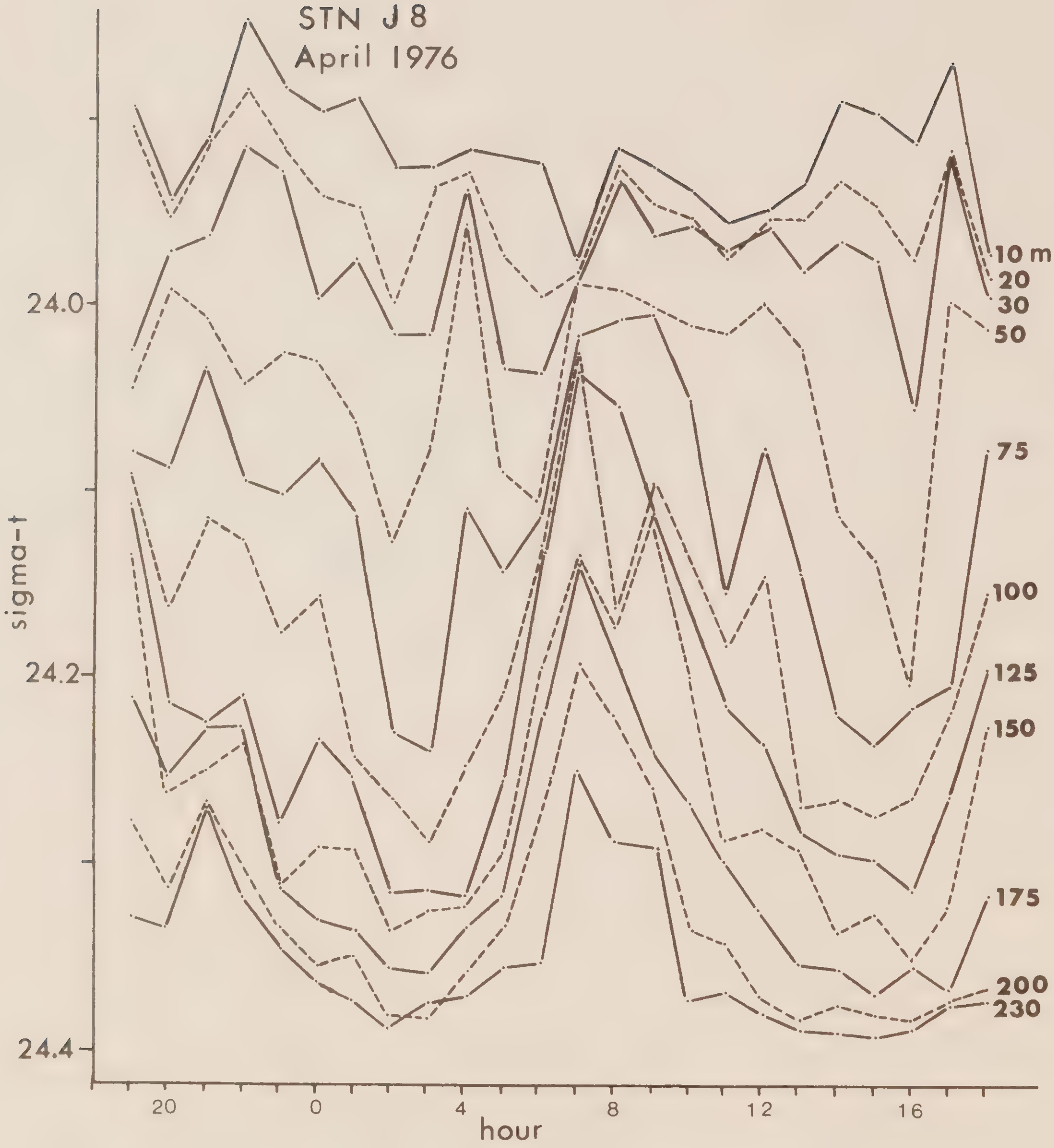

77#12 TEMPERATURE
MAY 13, 22:52-MAY 14
PRESSURE (DBARS)
0.00
60.00
120.00
180.00
240.00
300.00
360.00
STN J 95
SCALE = 0.25
+ = 8.0 DEG.C

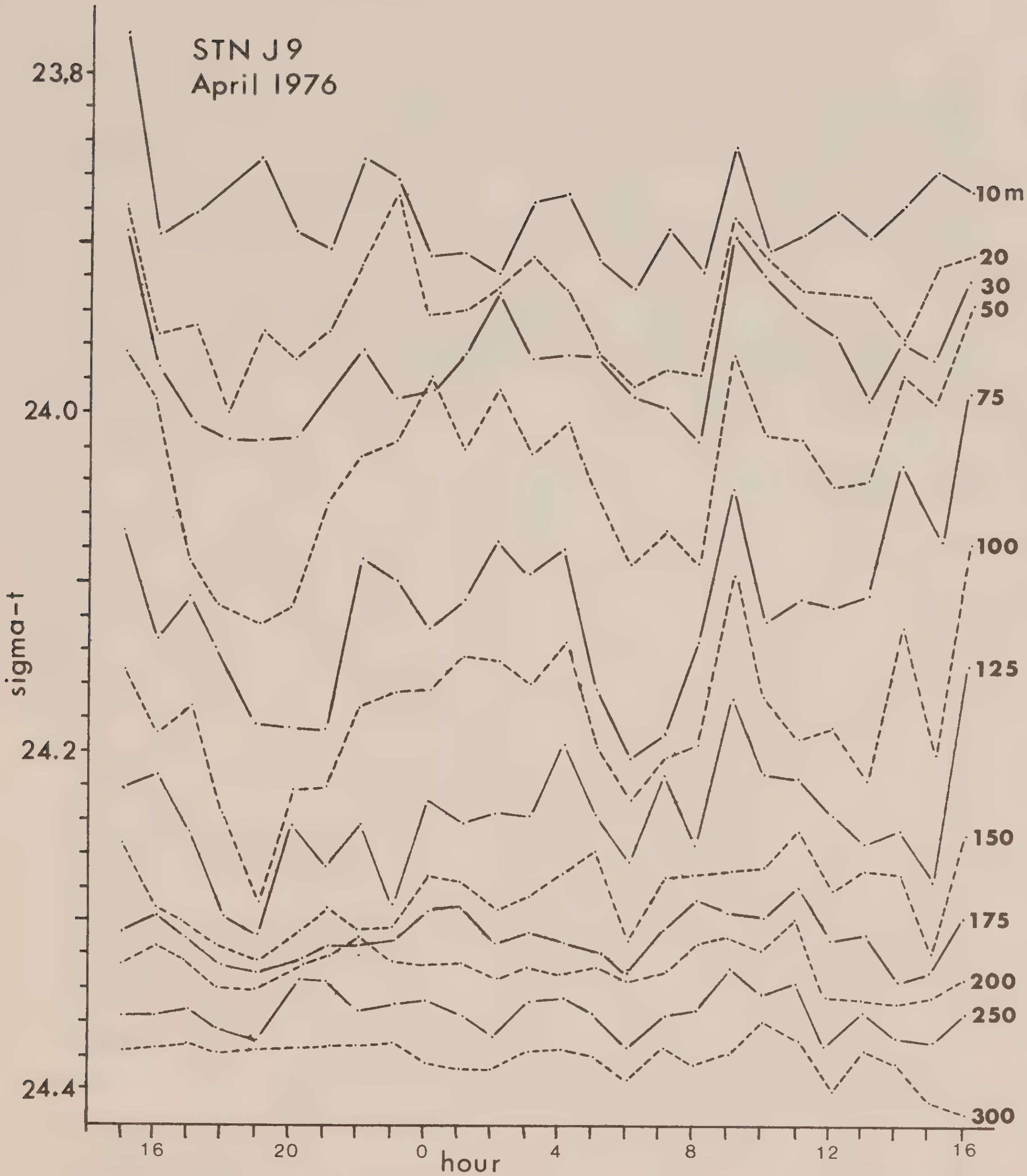

STN J 95
SCALE =0.25
+ = 24.5
0.00
60.00
120.00
180.00
240.00
300.00
360.00
PRESSURE (DBARS)
MAY13, 22:52-MAY 14, 15:44
77#12 DENSITY-SGT

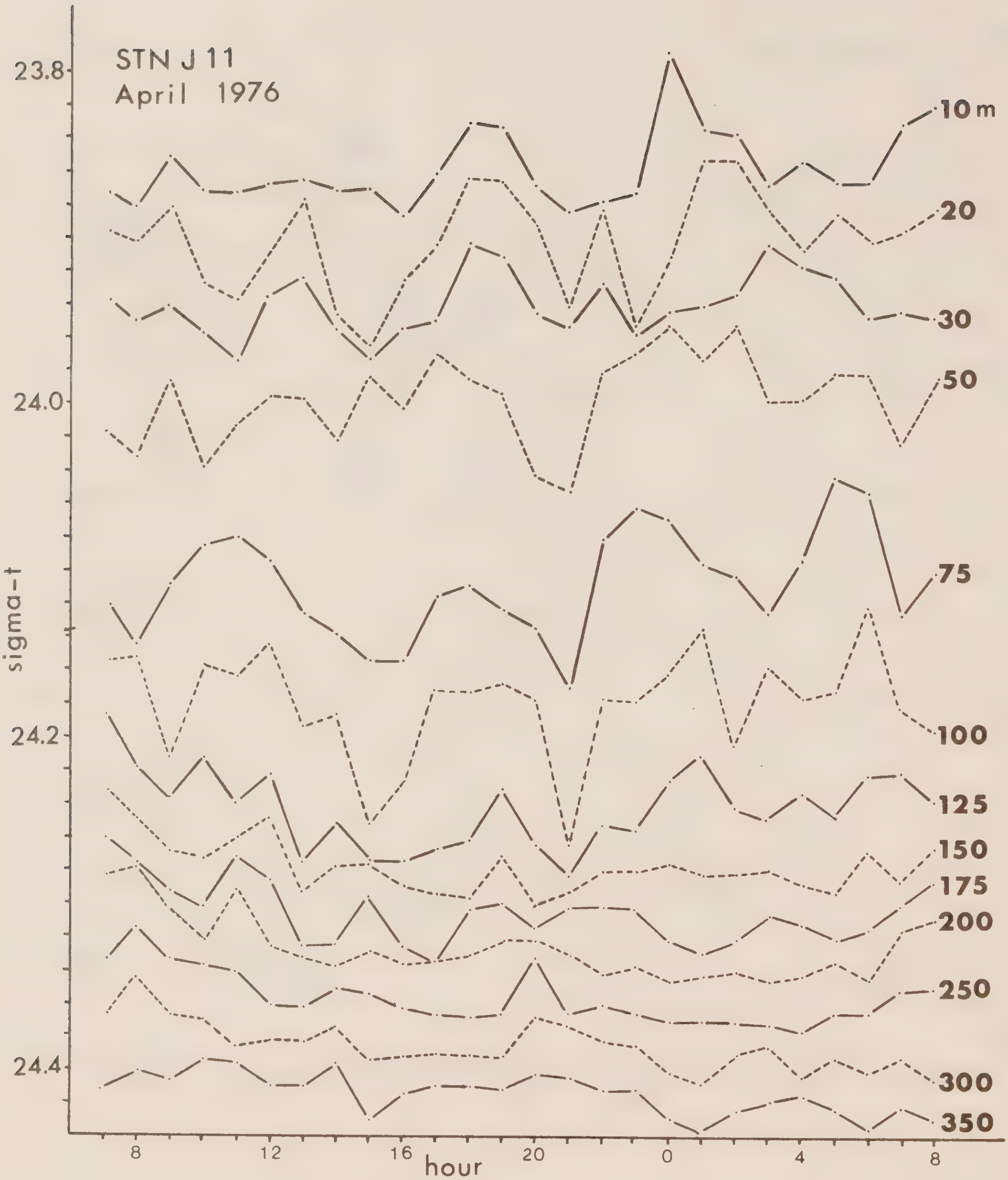

1977 CR#12
MAY 13 03:01-MAY 13 13:56
STN 51
TEMPERATURE
SCALE = 0.50
+ = 8.5 DEG.C
SIGMA-T
+ = 24.5
PRESSURE (DBARS)
0.00
60.00
120.00

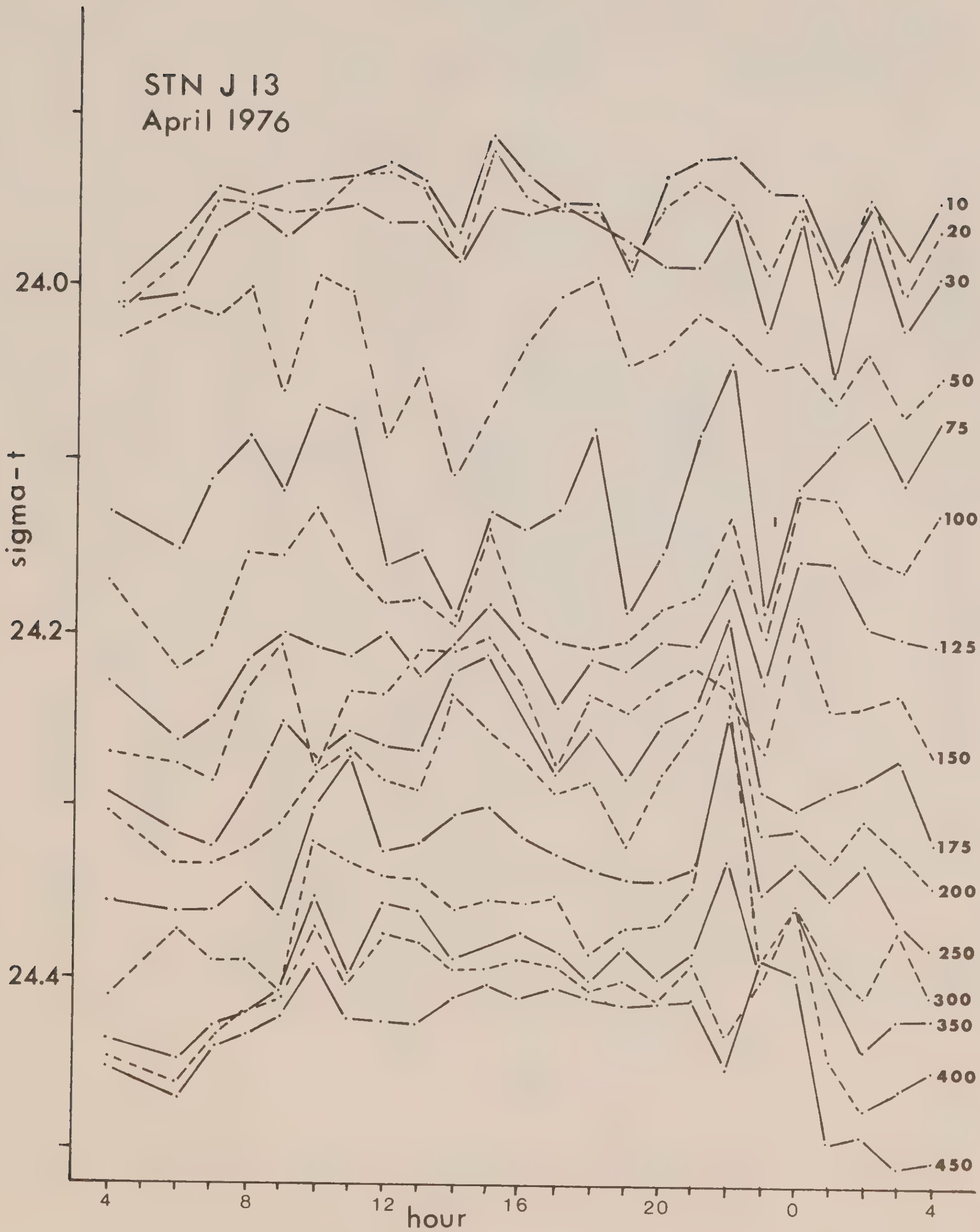
## 5.3 PLOTS OF SIGMA-T AT SPECIFIED DEPTHS

Plots show the observed temporal variability of sigma-t at standard depths (metres) for a number of time-series CTD stations. Hour is Pacific Standard Time.

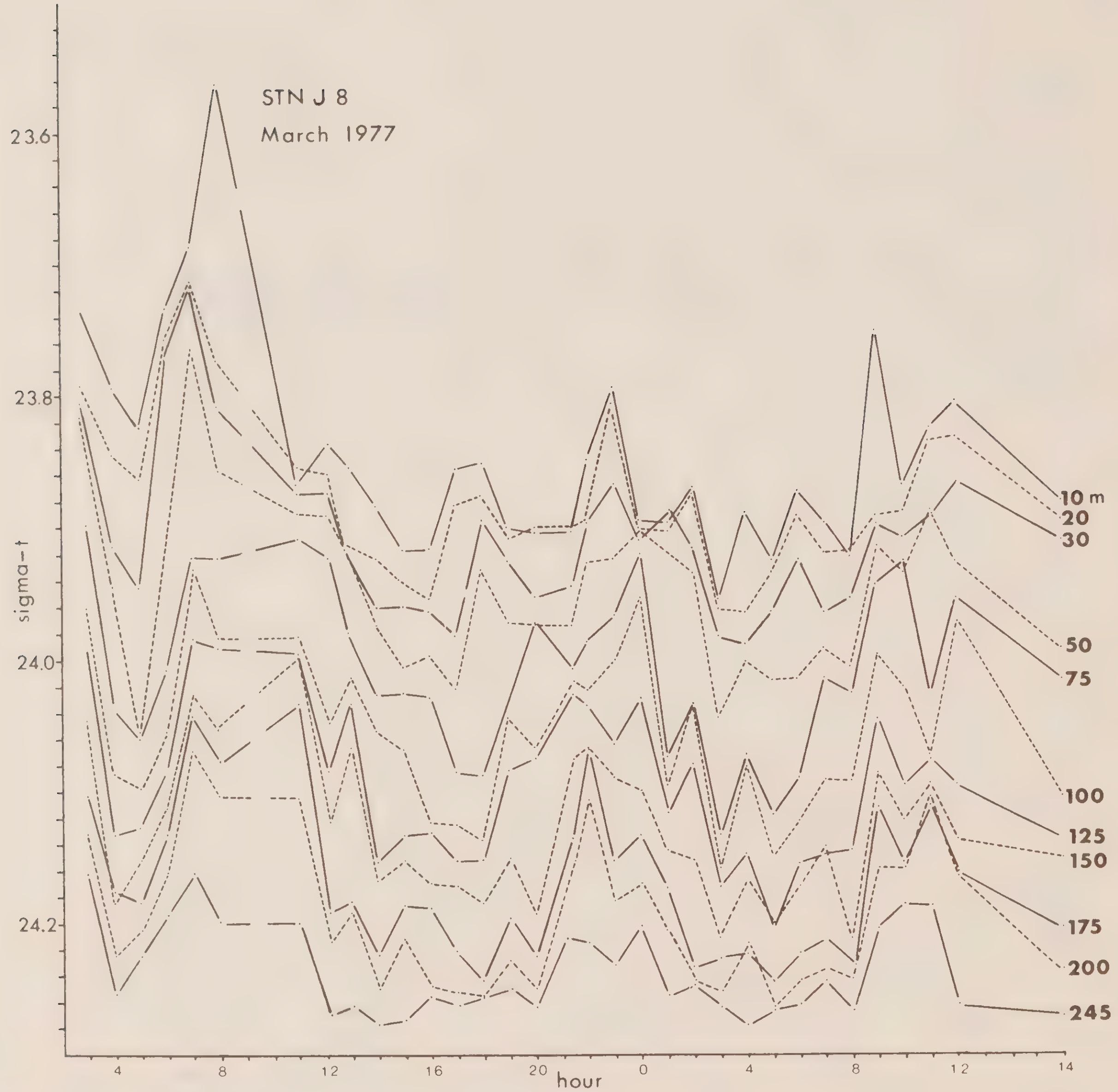

STN J8
April 1976
sigma-t
24.0
24.2
24.4
20
0
4
8
12
16
hour
10 m
20
30
50
75
100
125
150
175
200
230

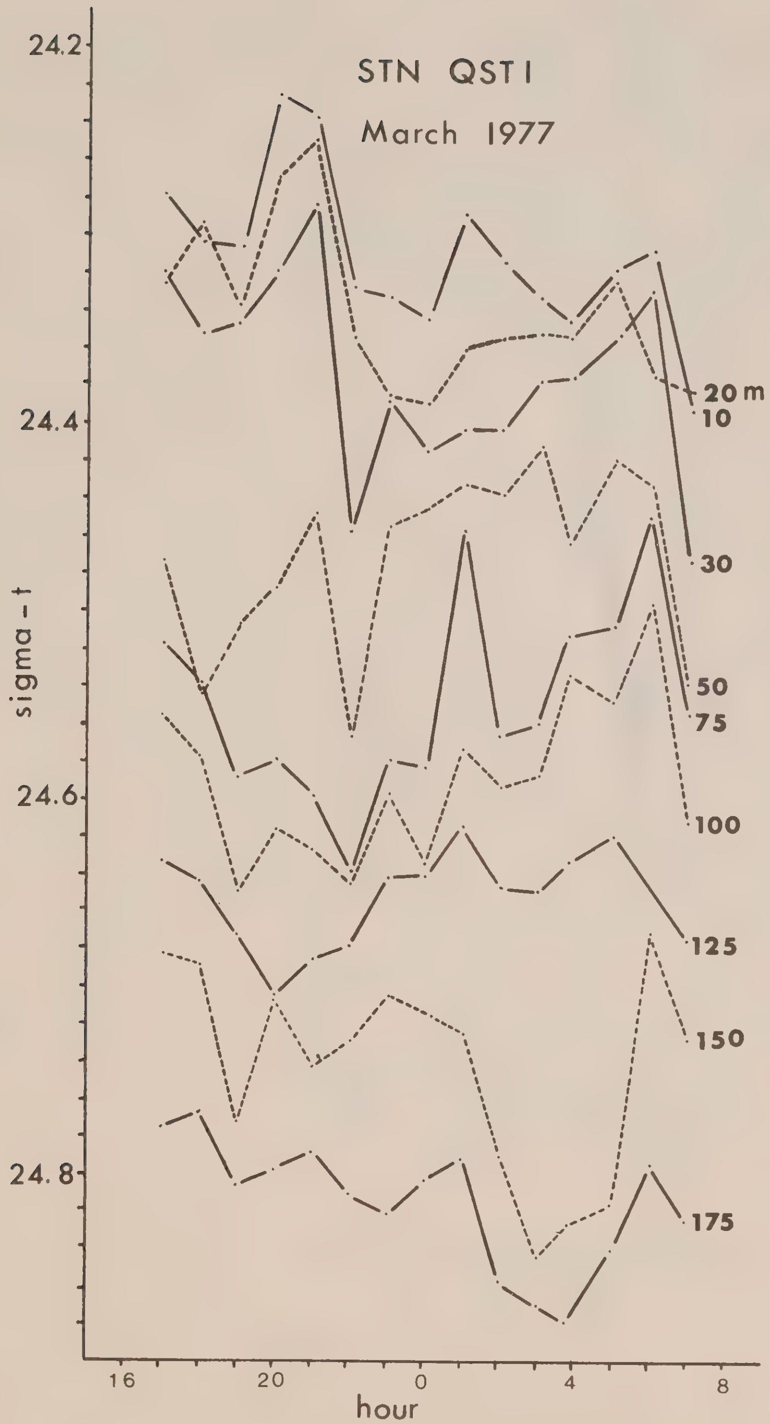

STN J9
April 1976
23.8
24.0
24.2
24.4
sigma-t
16
20
0
4
8
12
16
hour
10 m
20
30
50
75
100
125
150
175
200
250
300

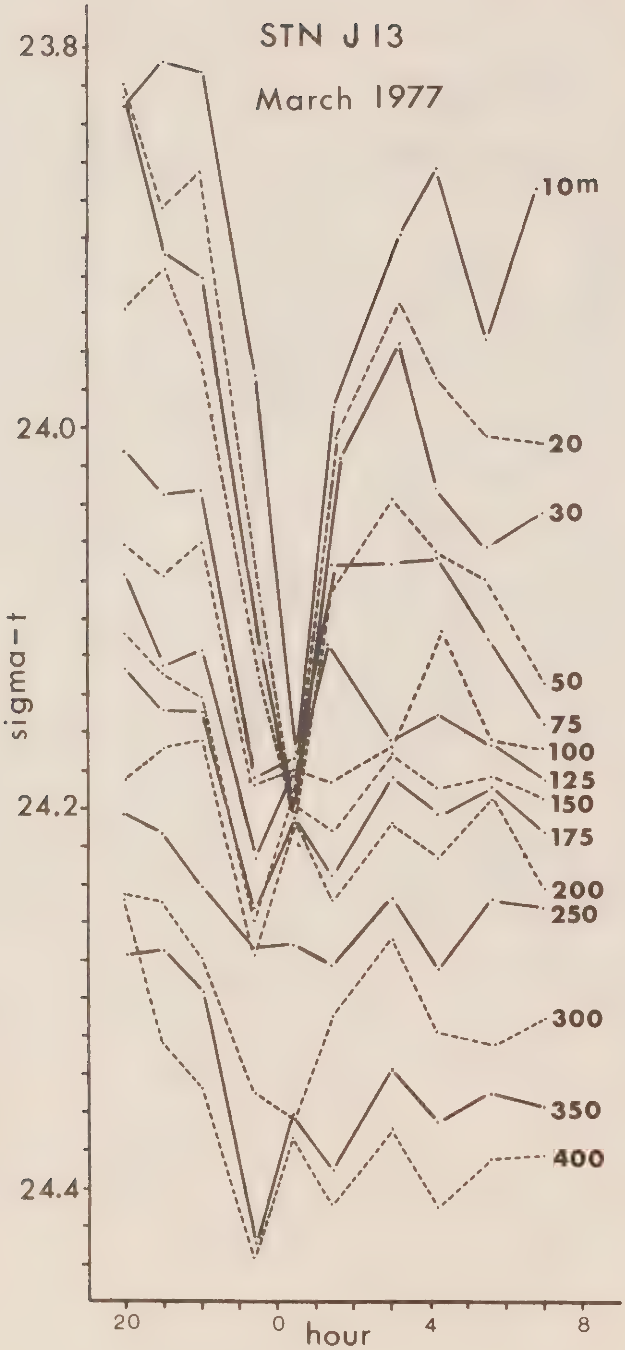

STN J 11
April 1976
23.8
24.0
24.2
24.4
sigma-t
10 m
20
30
50
75
100
125
150
175
200
250
300
350
8
12
16
20
0
4
8
hour

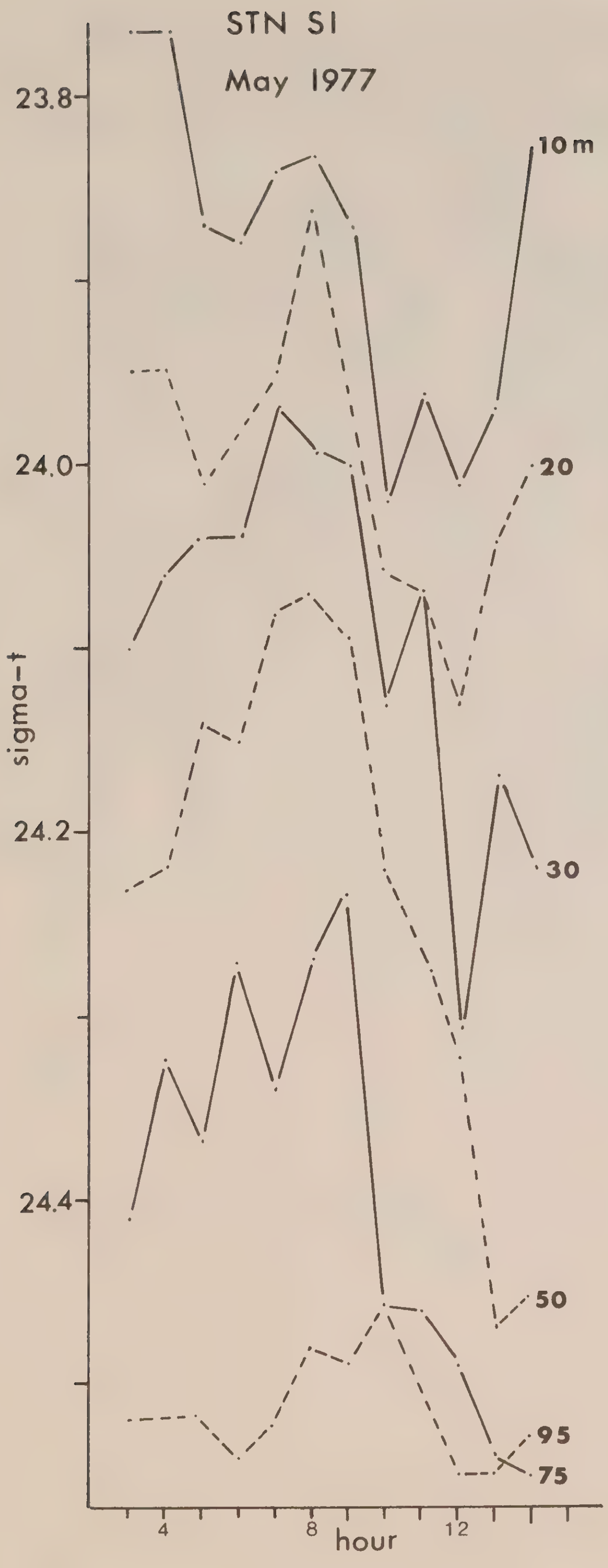


STN J 13
April 1976
sigma-t
24.0
24.2
24.4
hour
4
8
12
16
20
0
4
10
20
30
50
75
100
125
150
175
200
250
300
350
400
450


STN J 8
March 1977
23.6
23.8
24.0
24.2
sigma-t
4
8
12
16
20
hour
0
4
8
12
14
10 m
20
30
50
75
100
125
150
175
200
245

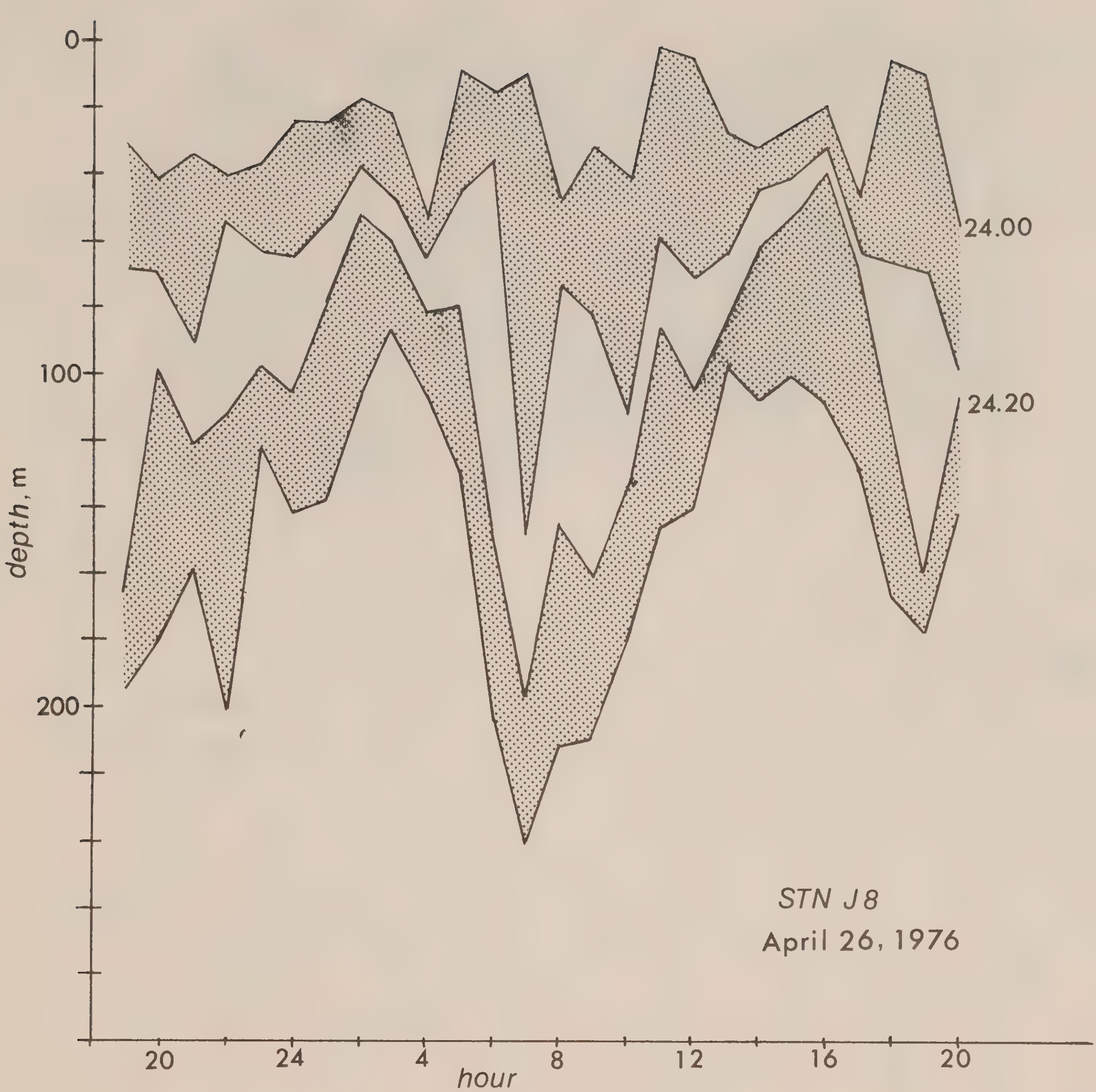

STN QST1
March 1977
24.2
24.4
24.6
24.8
sigma - t
20 m
10
30
50
75
100
125
150
175
16
20
0
4
8
hour


STN J 13
March 1977
23.8
24.0
24.2
24.4
sigma-t
10m
20
30
50
75
100
125
150
175
200
250
300
350
400
20
0
4
8
hour

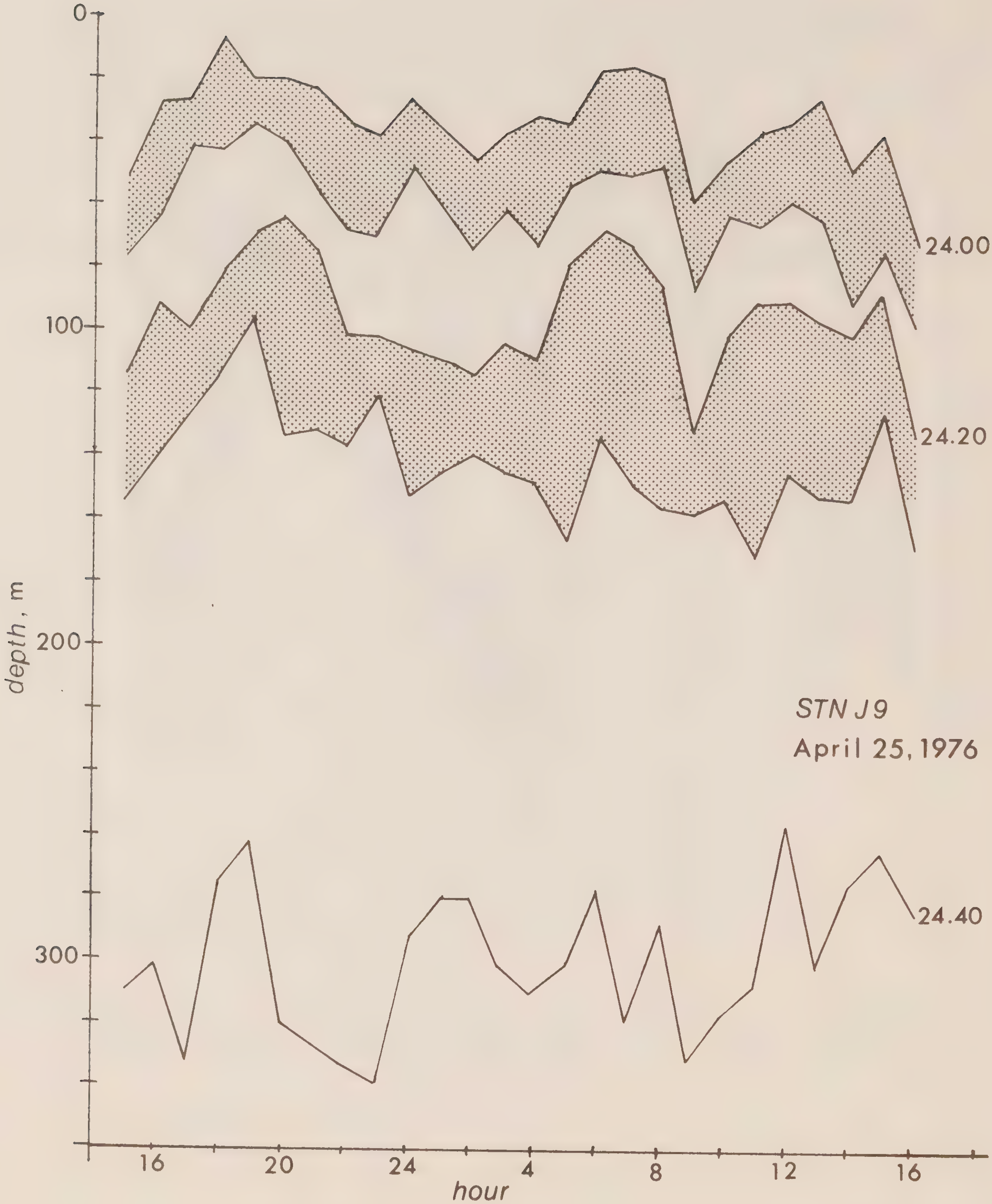

STN SI
May 1977
23.8
24.0
24.2
24.4
sigma-t
10m
20
30
50
95
75
4
8
12
hour

## 5.4 PLOTS OF DEPTHS OF SIGMA-T SURFACES

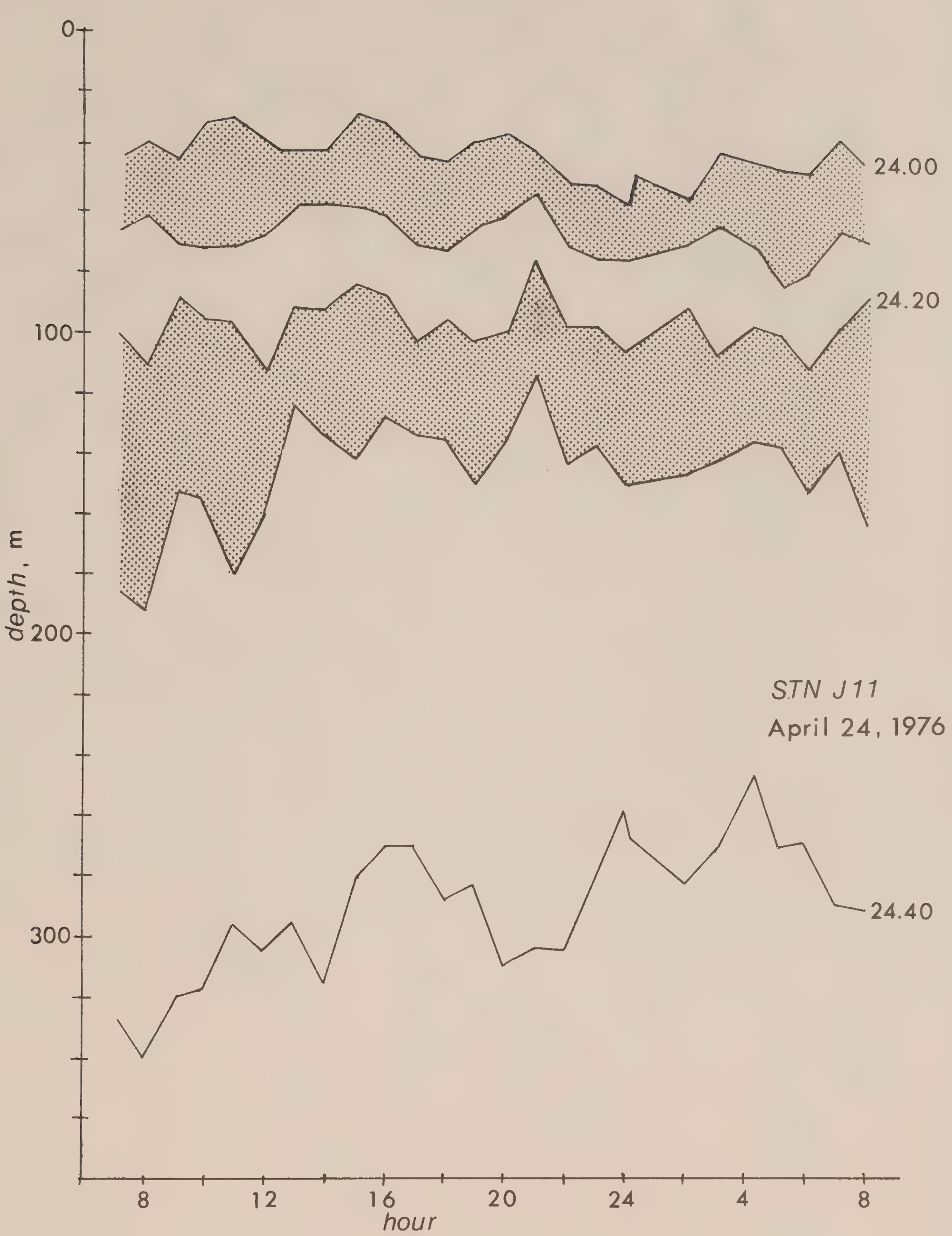
Plots show the variation with time of the depths of selected sigma-t surfaces for various time-series CTD stations. For each cast, the depth of a sigma-t surface has been determined through interpolation of the sigma-t versus depth profiles. Hour is Pacific Standard Time.



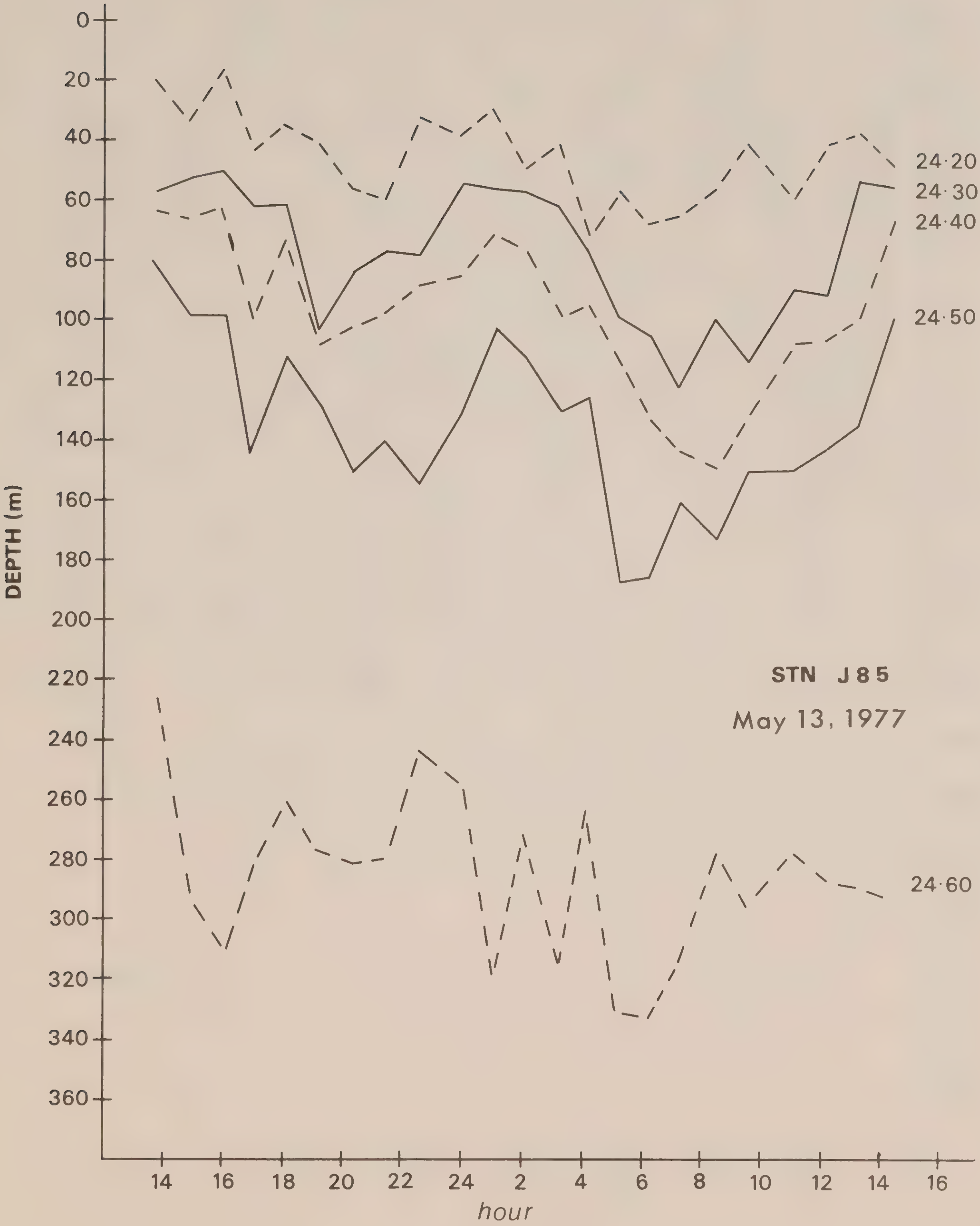
0
100
200
depth, m
24.00
24.20
STN J8
April 26, 1976
20
24
4
8
12
16
20
hour



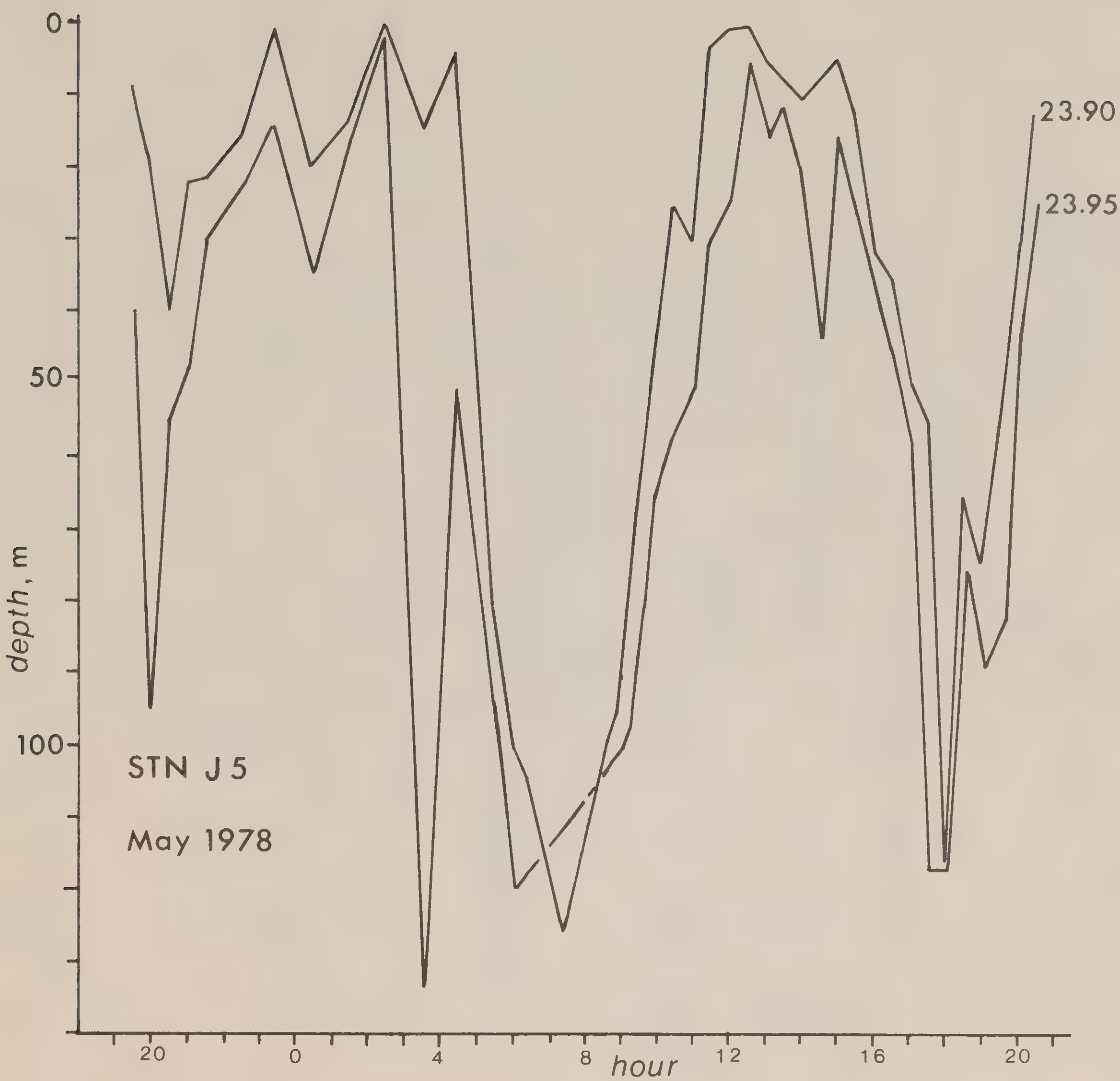
0
100
200
300
depth, m
24.00
24.20
24.40
STN J9
April 25, 1976
16
20
24
4
8
12
16
hour


0
100
200
300
depth, m
24.00
24.20
24.40
STN J11
April 24, 1976
8
12
16
20
24
4
8
hour

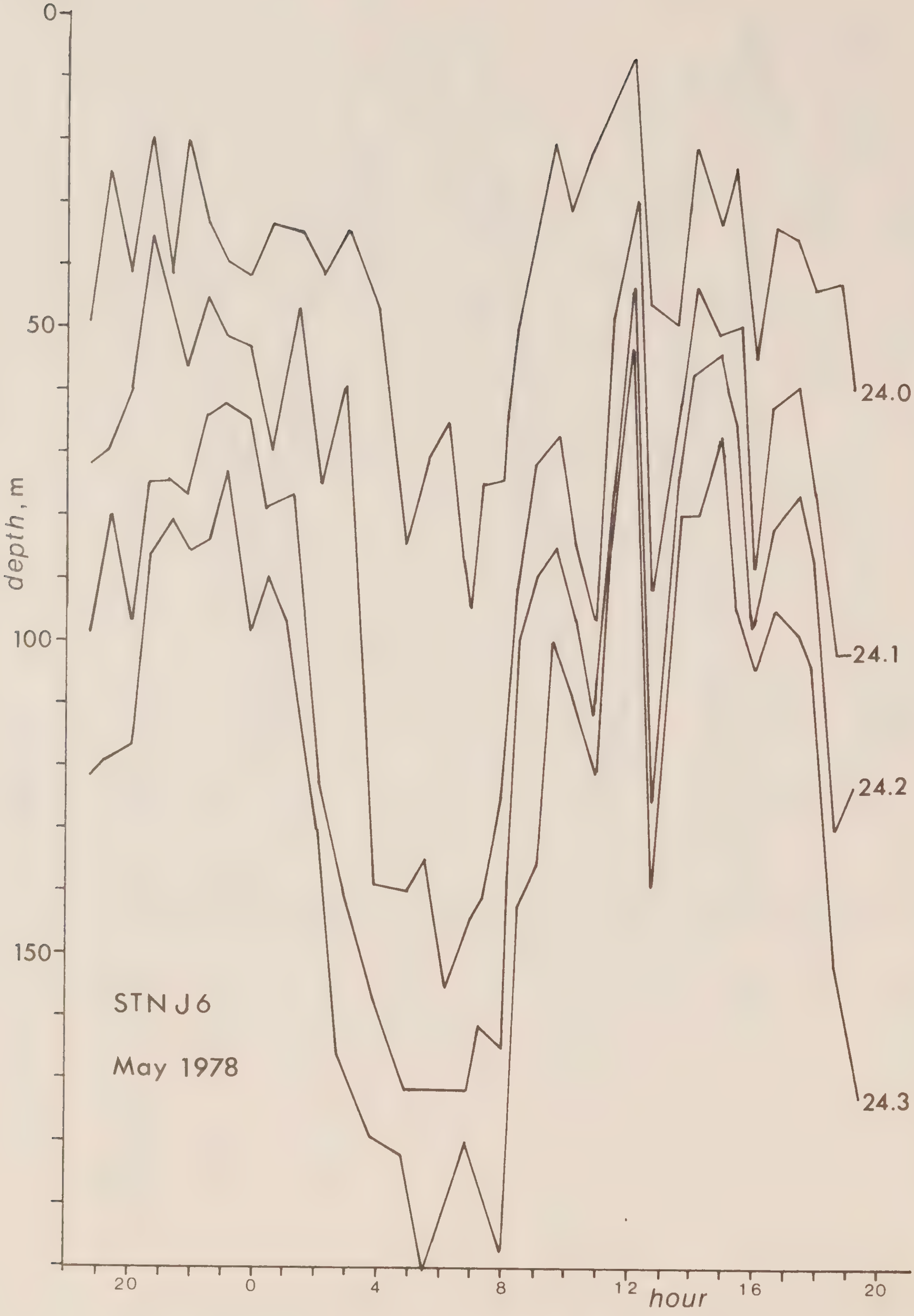
0
100
200
300
400
depth, m
14
18
22
hour
2
6
10
14
24.10
24.30
24.50
STN J13
May 1978


DEPTH (m)
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
320
340
360
14
16
18
20
22
24
2
4
6
8
10
12
14
16
hour
24·20
24·30
24·40
24·50
24·60
STN J85
May 13, 1977

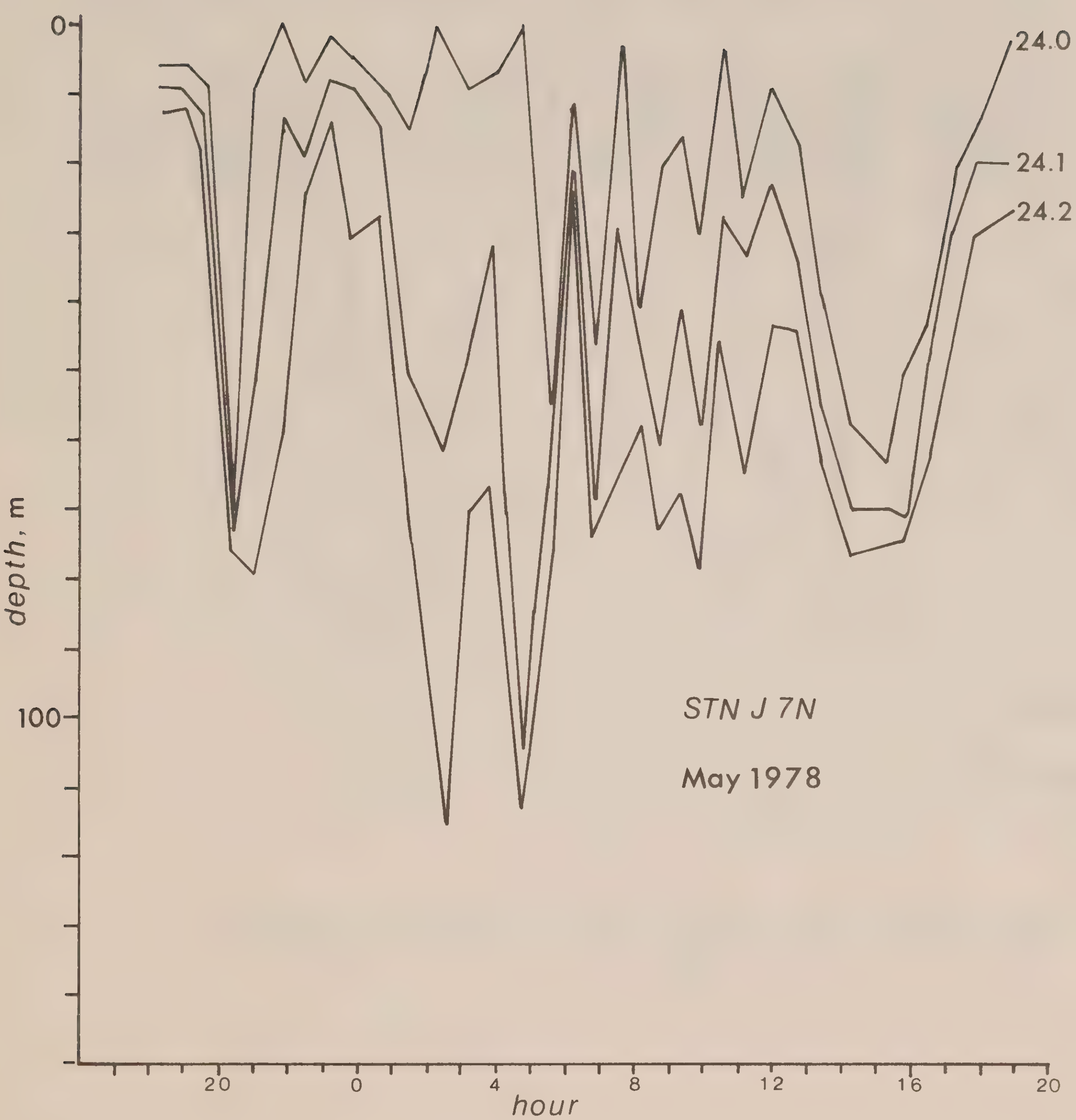
DEPTH (m)
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
320
340
360
24·20
24·30
24·50
24·60
STN J95
May 13, 1977
14
16
18
20
22
24
2
4
6
8
10
12
14
16
18
hour



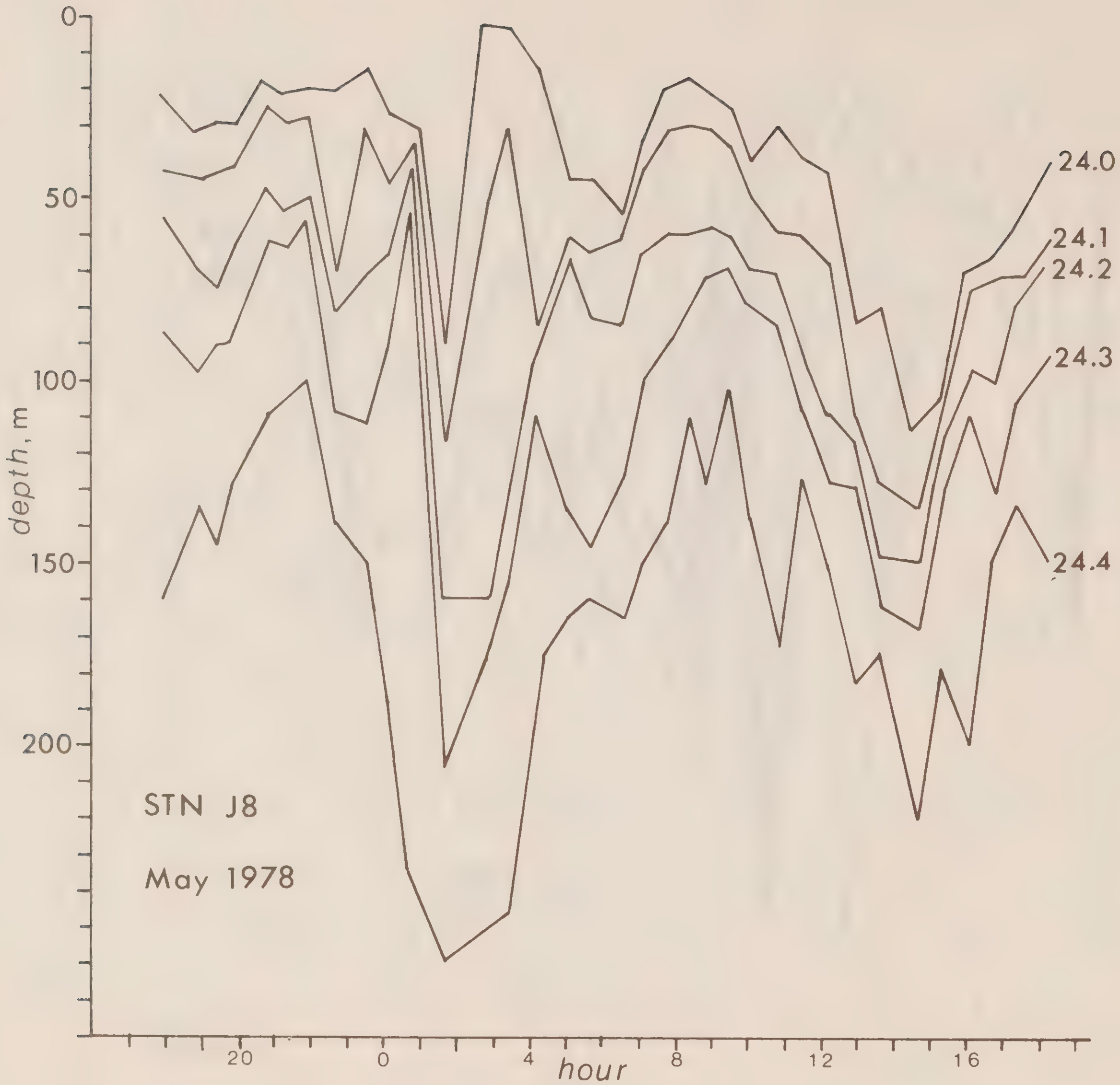
0
50
100
depth, m
STN J5
May 1978
23.90
23.95
20
0
4
8
hour
12
16
20



0
50
100
150
depth, m
24.0
24.1
24.2
24.3
STN J6
May 1978
20
0
4
8
12
hour
16
20



0
100
depth, m
20
0
4
8
12
16
20
hour
24.0
24.1
24.2
STN J 7N
May 1978


0
50
100
150
200
depth, m
20
0
4
8
12
16
hour
24.0
24.1
24.2
24.3
24.4
STN J8
May 1978

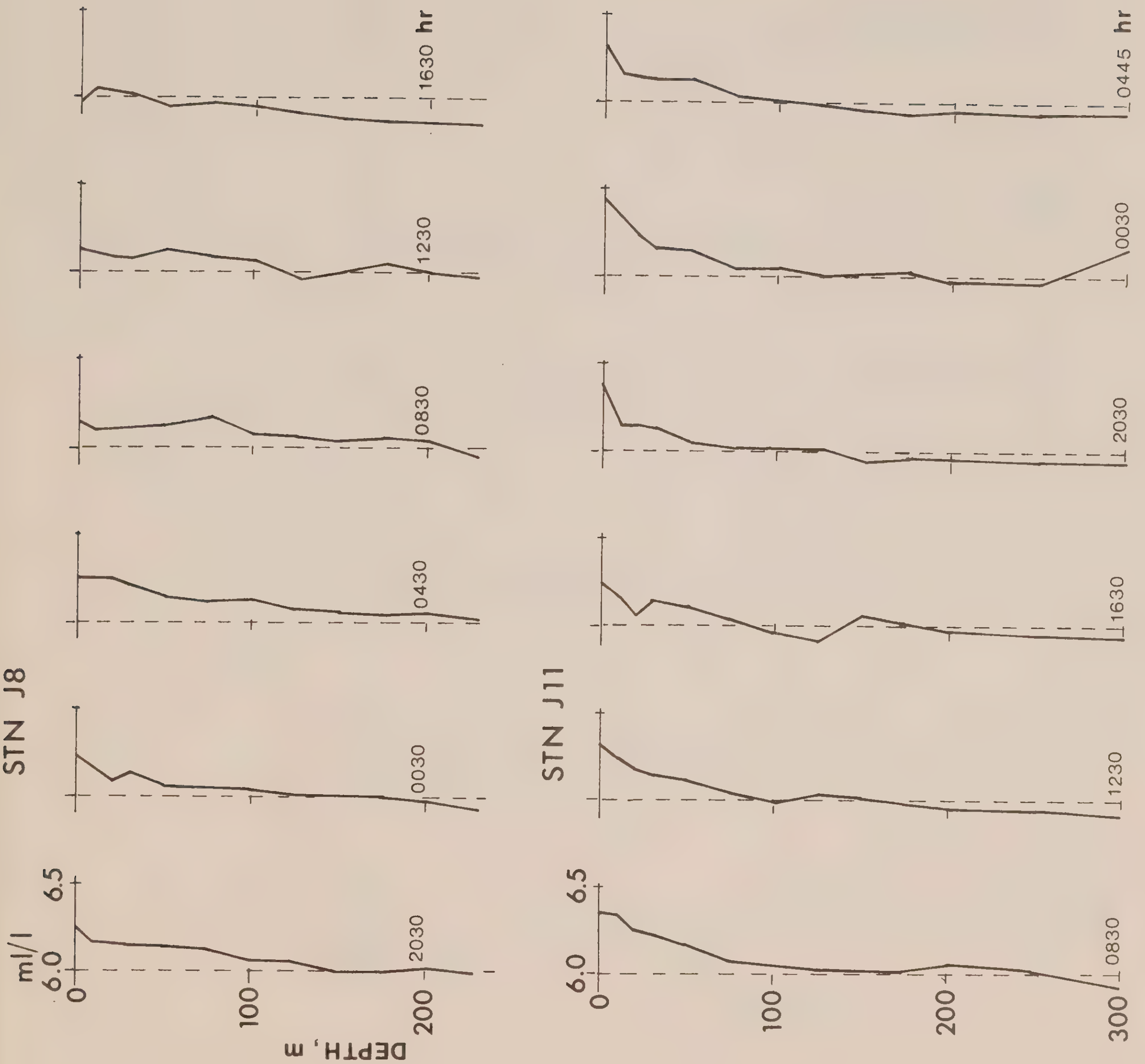
6. Time-series dissolved oxygens

In a limited number of cases, time-series dissolved oxygen measurements accompanied the CTD time-series profiles (Table 4, p.192). However, owing to the considerably longer time required for a hydro cast, dissolved oxygens were usually limited to roughly four hourly intervals (every fourth CTD cast).

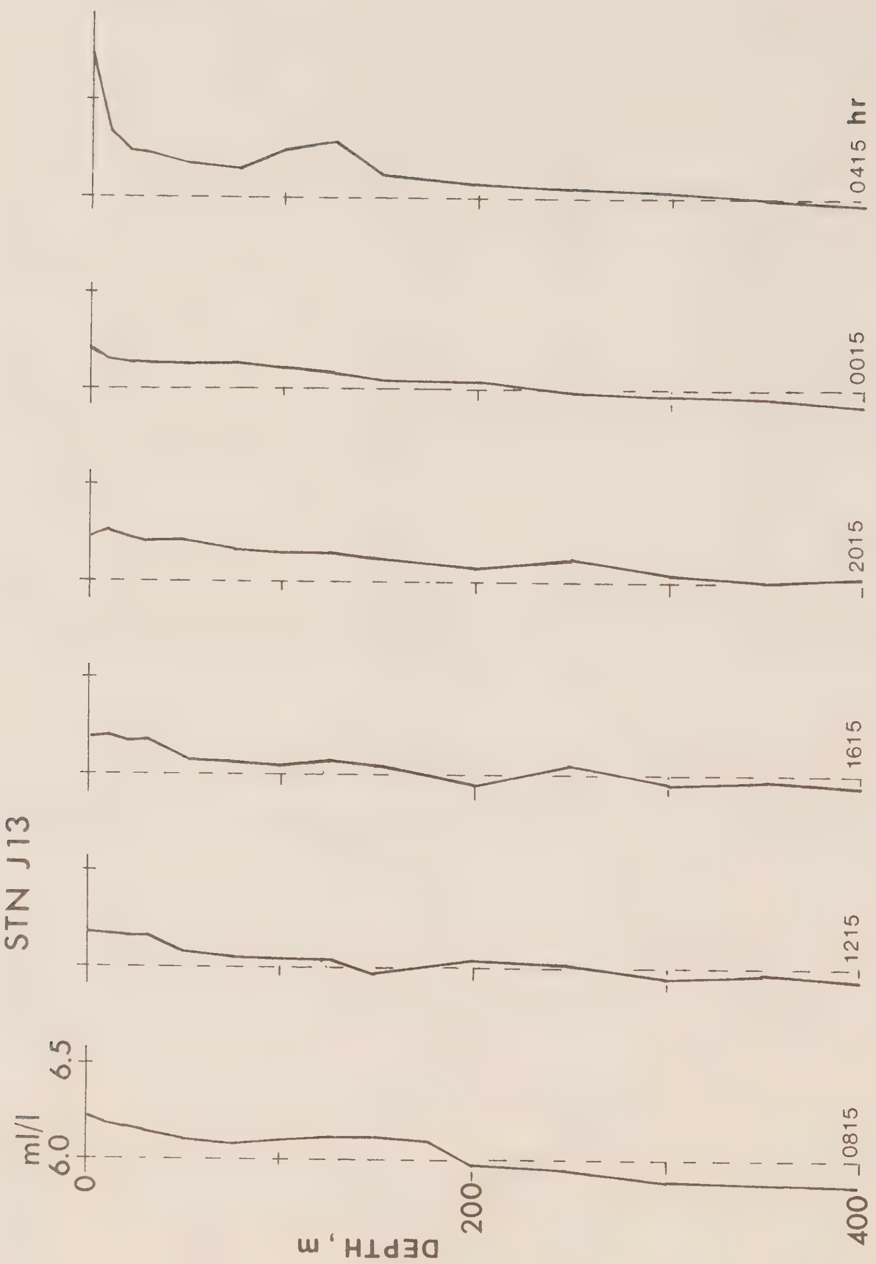
Sections 6.1 and 6.2 give, respectively time-series profiles of dissolved oxygen for selection stations based on standard depths and temporal variations of dissolved oxygen at selected depths. The time-series dissolved oxygen data are listed in Appendix D.

## 6.1 TIME-SERIES PROFILES

Shown are time-series profiles of dissolved oxygen (in mL/L) for three stations in the western basin of Johnstone Strait (J8 - April 26, 1976; J11 - April 24, 1976; and J13 - April 23, 1976). Scale for each cast is from 6.0 to 6.5 mL/L. Hour for each cast is Pacific Standard Time.

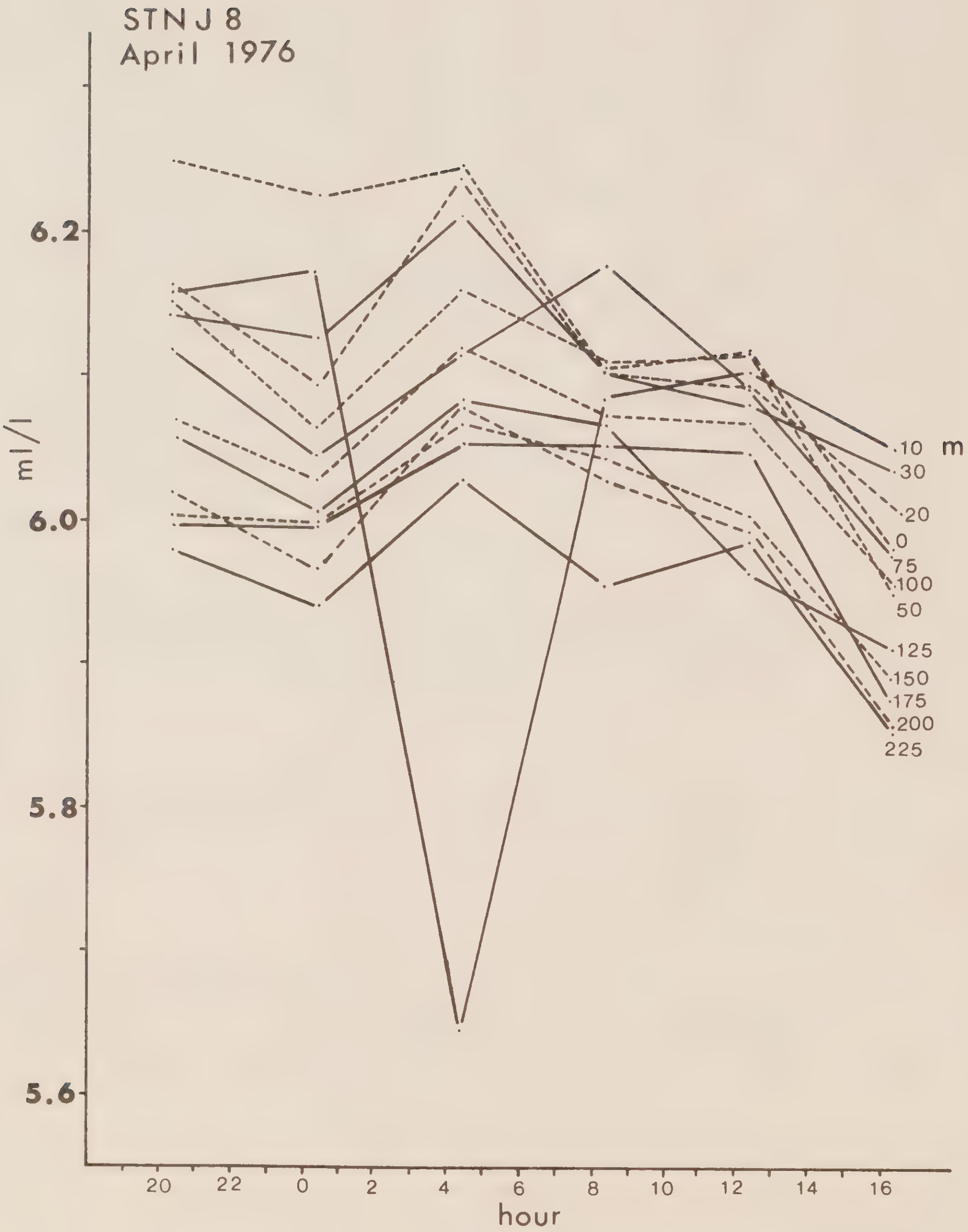


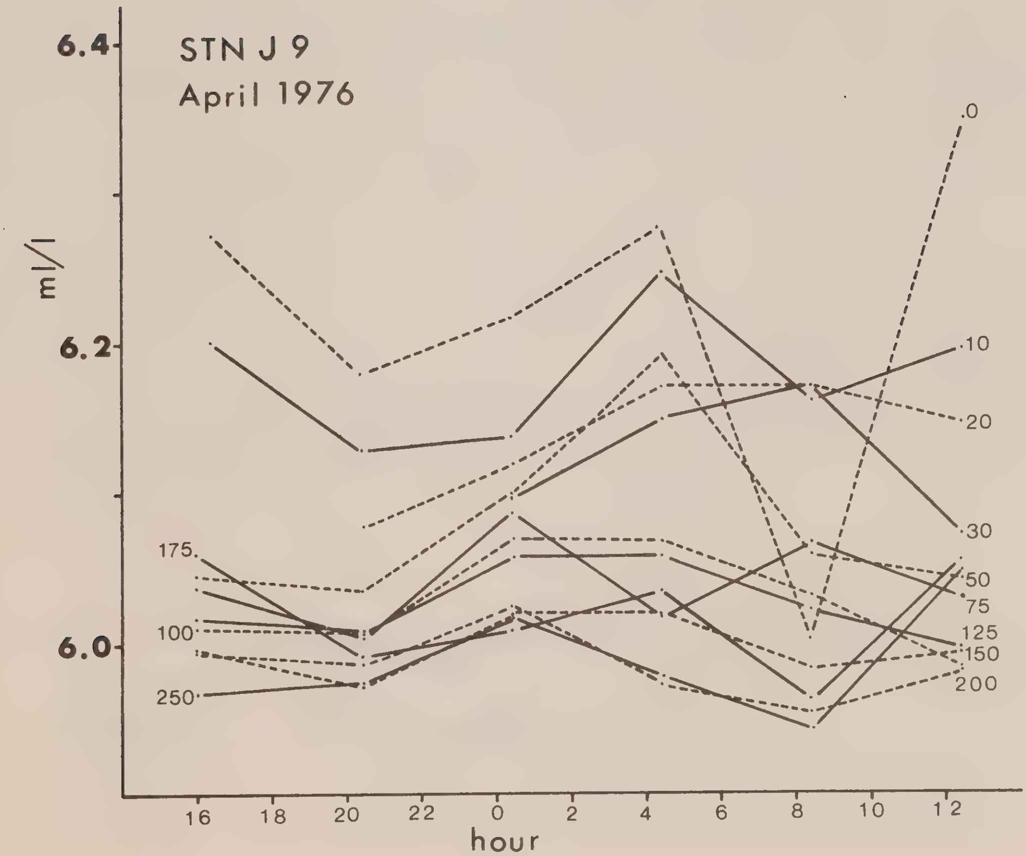
STN J8
STN J11
ml/l
6.0
6.5
DEPTH, m
0
100
200
300
2030
0030
0430
0830
1230
1630 hr
0830
1230
1630
2030
0030
0445 hr


STN J13
ml/l
6.0
6.5
0
200
400
DEPTH, m
0815
1215
1615
2015
0015
0415 hr

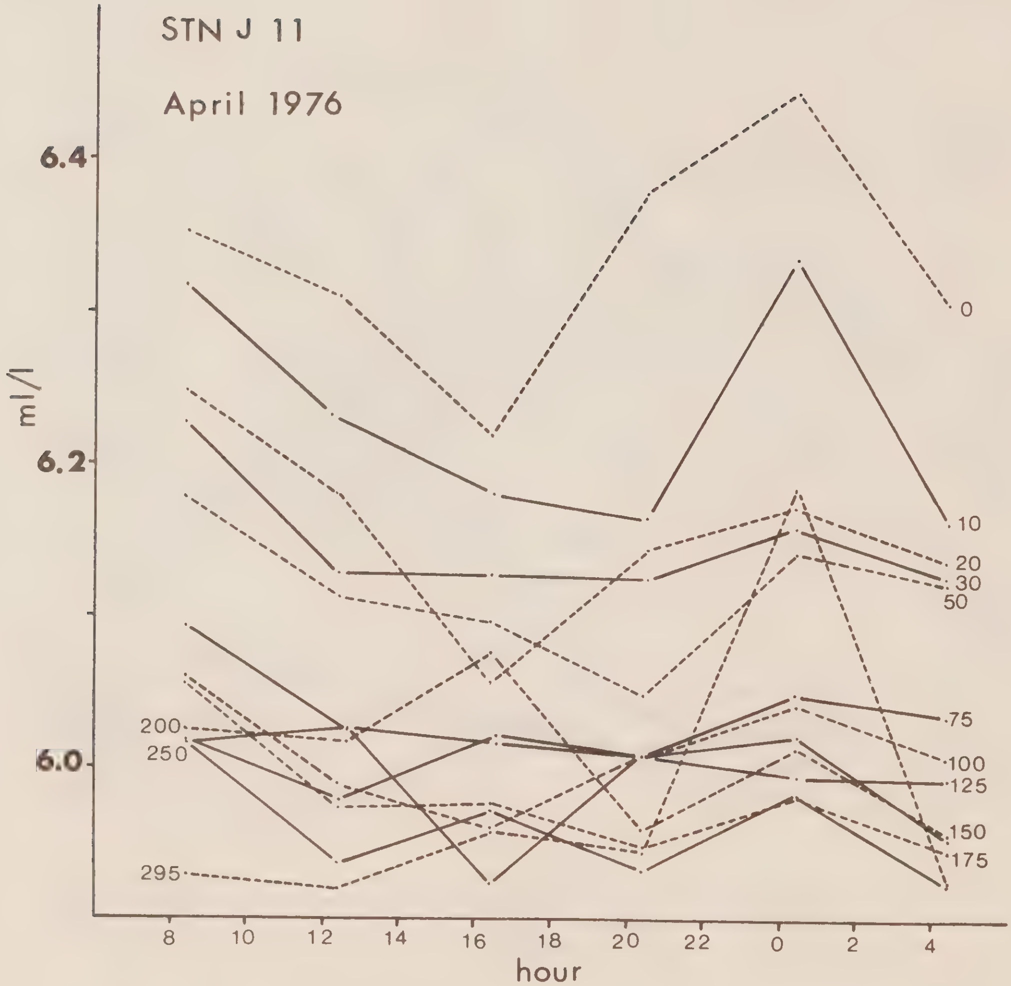
## 6.2 PLOTS OF ISOPLETHS AT SELECTED DEPTHS

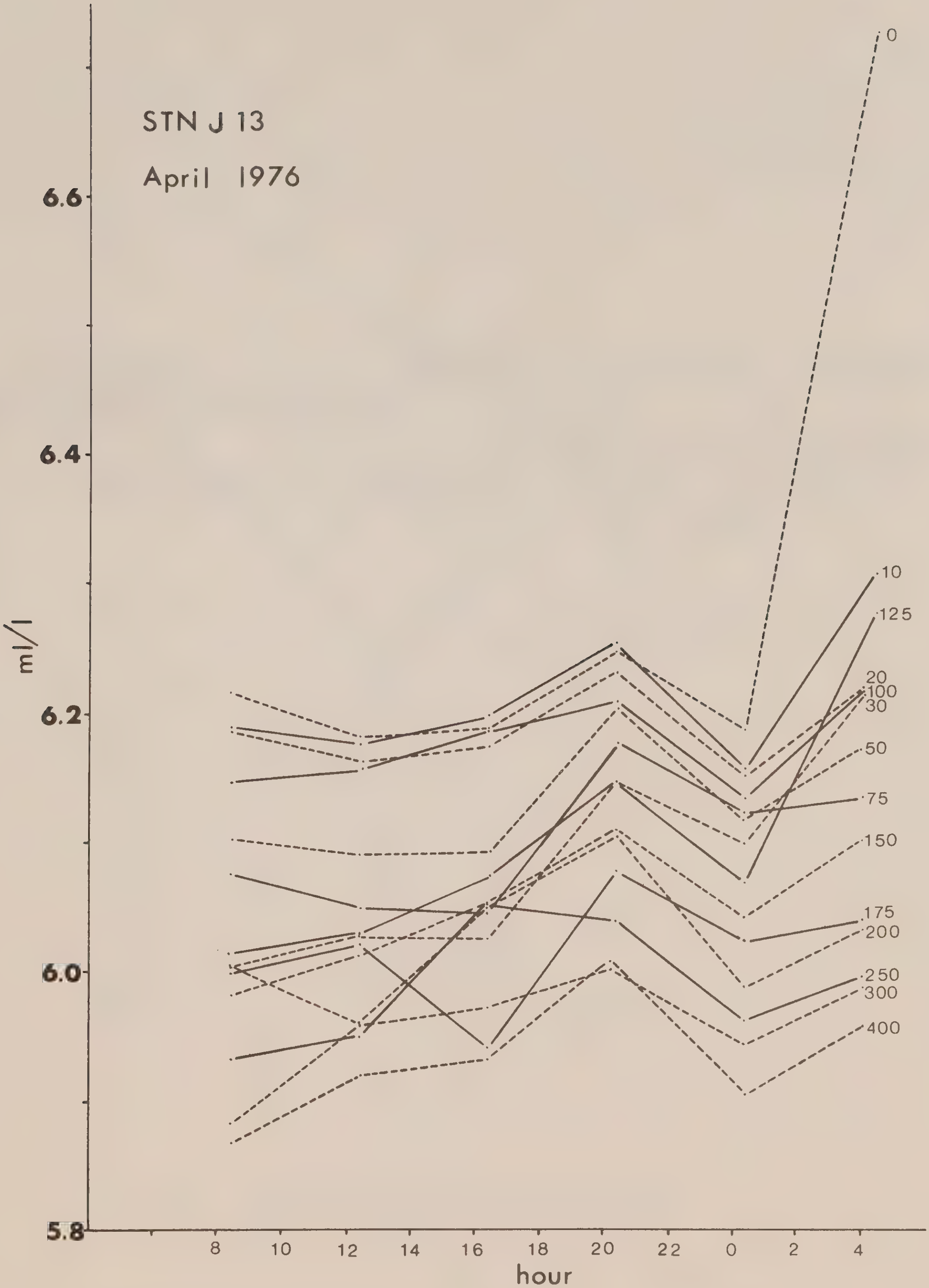
Plots show temporal variability of dissolved oxygen content at standard depths (metres) for various time-series stations. Hour is Pacific Standard Time. Values are also listed in Appendix D.

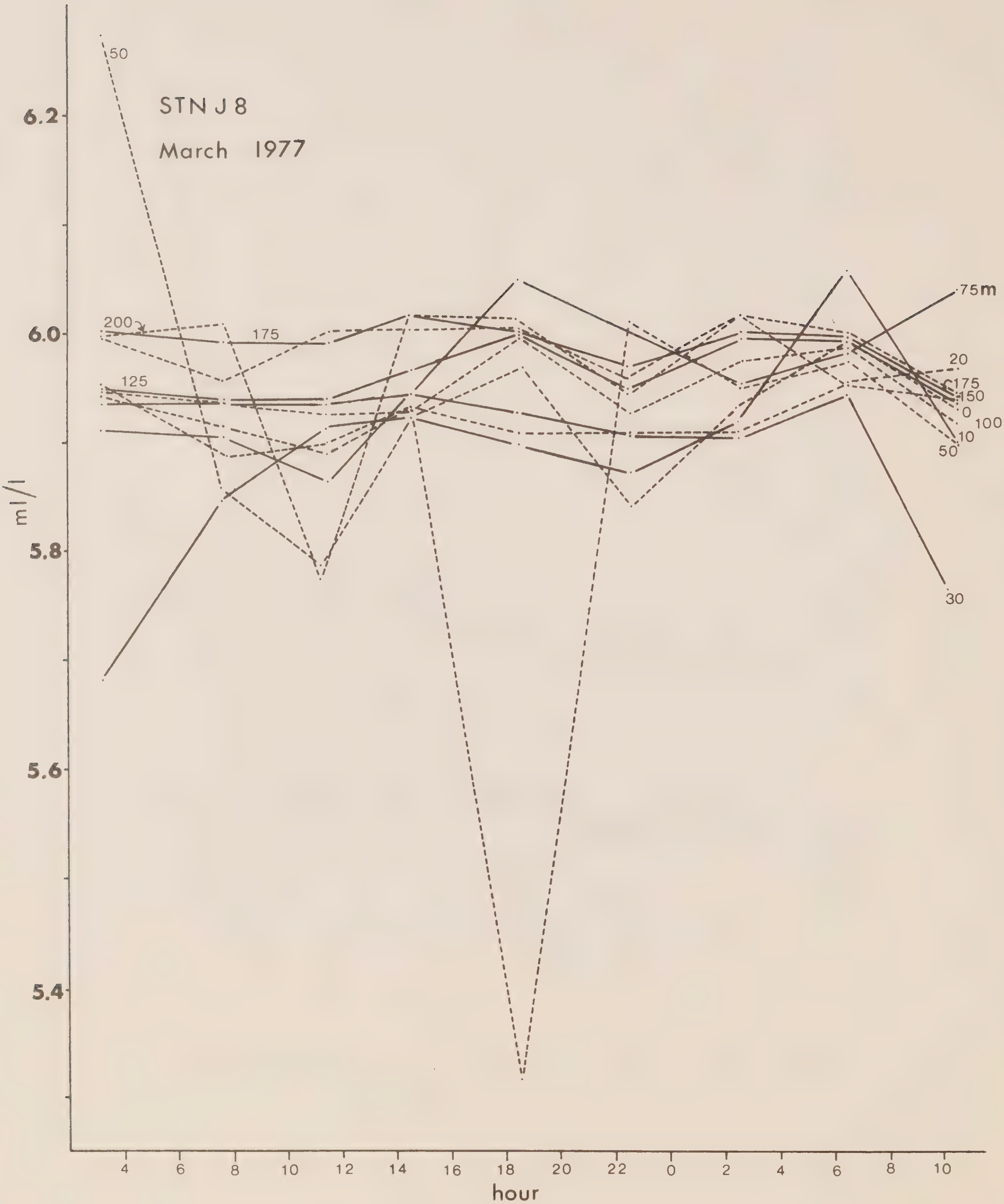

STN J 8
April 1976
6.2
6.0
5.8
5.6
ml/l
20
22
0
2
4
6
8
10
12
14
16
hour
10 m
30
20
0
75
100
50
125
150
175
200
225

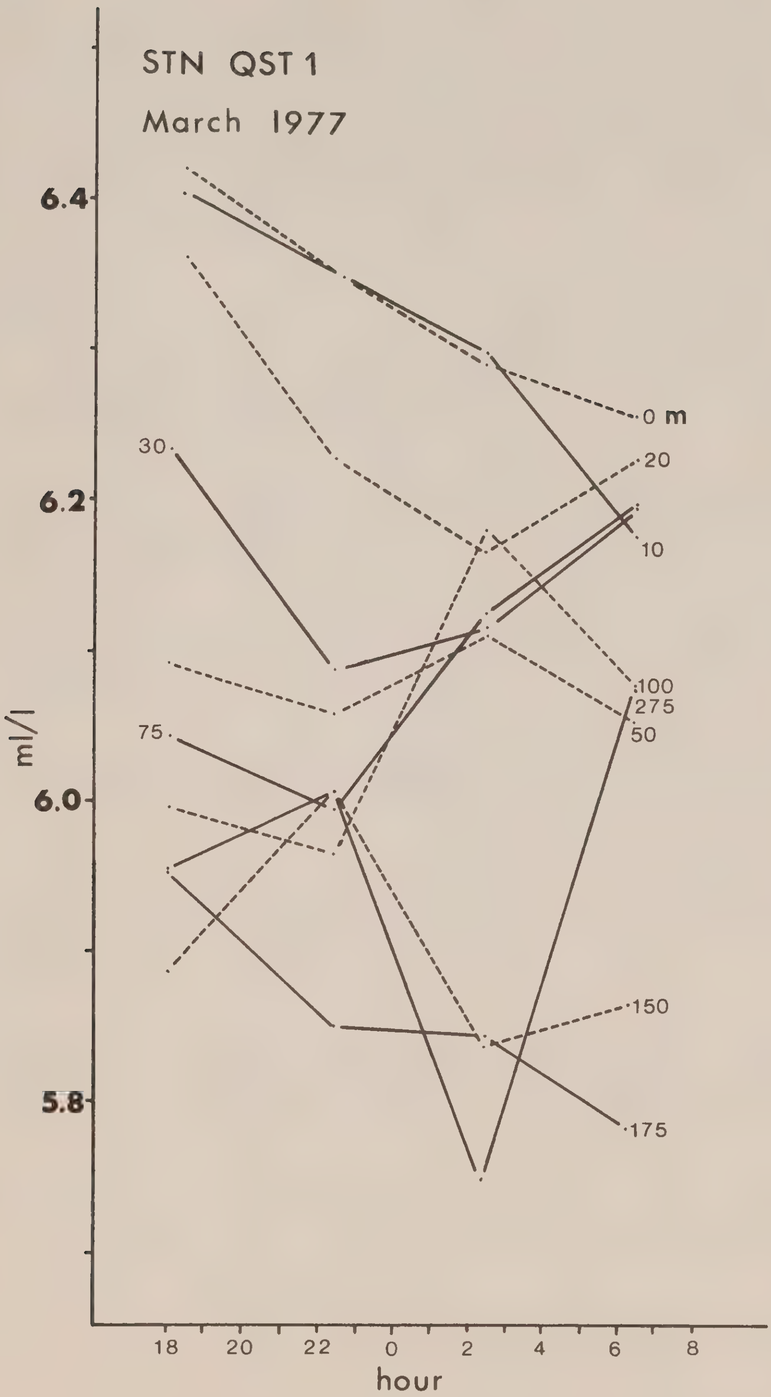


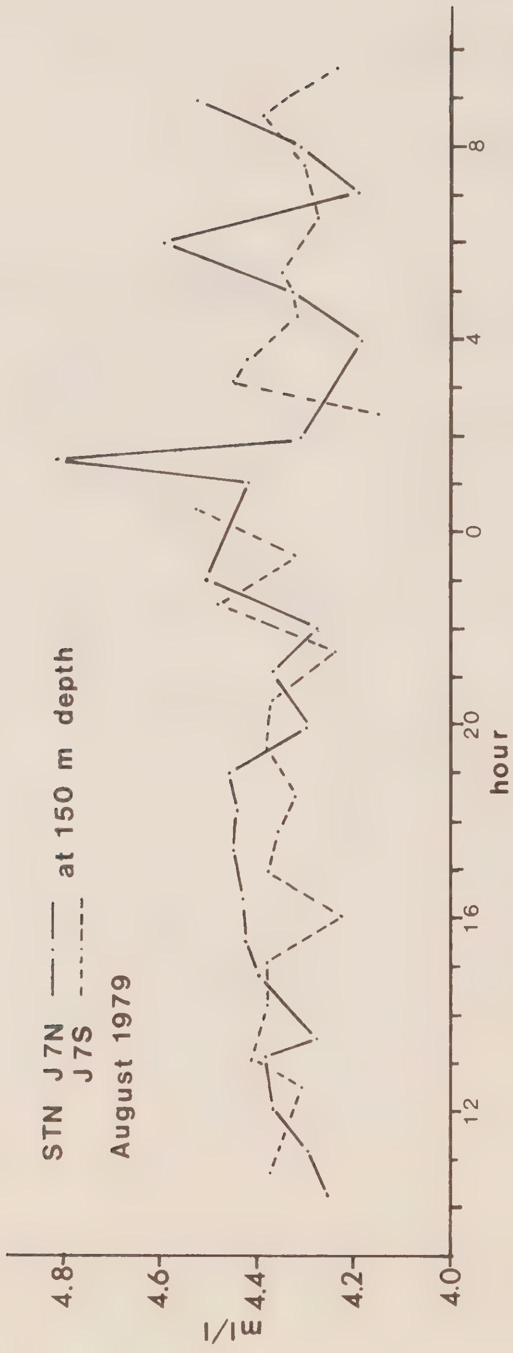
STN J 9
April 1976
6.4
6.2
6.0
ml/l
0
10
20
30
50
75
125
150
200
175
100
250
16
18
20
22
0
2
4
6
8
10
12
hour


STN J 11
April 1976
6.4
6.2
6.0
ml/l
0
10
20
30
50
75
100
125
150
175
200
250
295
8
10
12
14
16
18
20
22
0
2
4
hour


STN J 13
April 1976
ml/l
6.6
6.4
6.2
6.0
5.8
8
10
12
14
16
18
20
22
0
2
4
hour
0
10
125
20
100
30
50
75
150
175
200
250
300
400


STN J 8
March 1977
6.2
6.0
5.8
5.6
5.4
ml/l
hour
4
6
8
10
12
14
16
18
20
22
0
2
4
6
8
10
50
200
175
125
75m
20
175
150
0
100
10
50
30


STN QST 1
March 1977
6.4
6.2
6.0
5.8
ml/l
0 m
20
10
30
100
275
50
75
150
175
18
20
22
0
2
4
6
8
hour



STN J7N —·— at 150 m depth
J7S -·-·-
August 1979
ml/l
4.8
4.6
4.4
4.2
4.0
12
16
20
0
4
8
hour

## 7. Acknowledgements

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## 8. References

Cockbain, A.E. 1963. Distribution of sediments on the continental shelf off the southern British Columbia Coast, Univ. of British Columbia, Institute of Oceanography, Ms. Rep. 15, 7 p.

de Jong, C. 1974. Reference manual for oceanographic technicians on the weatherships, Unpublished manuscript, Institute of Ocean Sciences, Patricia Bay, B.C.

Herlinveaux, R.H. and L.F. Giovando, 1969. Some oceanographic features of the inside passage between Vancouver Island and the mainland of British Columbia. Fish. Res. Board Can. Tech. Rep. 142, 48 p.

Huggett, W.S., J.F. Bath and A. Douglas. 1976. Data record of current observations, v.XIV, Johnstone Strait, 1973, unpublished manuscript, Institute of Ocean Sciences, Patricia Bay, Sidney, B.C., 155 p.

Huggett, W.S., R.E. Thomson, M.J. Woodward and A.N. Douglas, 1980. Data record of current observations Vol. VII, Johnstone Strait 1976, 1977, 1978, unpublished manuscript, Institute of Ocean Sciences, Sidney, B.C., 288 p.

Luternauer, J.L., R.H. Linden and R.E. Thomson. 1978. Applications of side-scan sonar to geoenvironmental research in the coastal waters of British Columbia, scientific and technical notes *in* Current Research, Part B; Geol. Surv. Can., Paper 78-1B, p.181-186.

Macdonald, R.W., F.A. McLaughlin and J.S. Page. 1980. Nutrient storage by freezing: data report and statistical analyses, Pacific Marine Science Rep. 80-2, unpublished manuscript, Institute of Ocean Sciences, Sidney, B.C., 69 p.

Pickard, G.L., 1975. Descriptive Physical Oceanography, Pergamon, 2nd Edn.

Thomson, R.E., 1976. Tidal currents and estuarine-type circulation in Johnstone Strait, British Columbia, J. Fish. Res. Board Canada, *33*(10), p. 2242-2264.

Thomson, R.E. 1977. Currents in Johnstone Strait, British Columbia: supplemental data on the Vancouver Island Side, J. Fish. Res. Board Canada, *34*(5), p. 697-703.

Thomson, R.E. and J.L. Luternauer. 1978. Tidal regime and sedimentation patterns in Johnstone Strait, British Columbia - A preliminary report; Scientific and technical notes *in* Current Research, Part A, Geol. Surv. Can., Paper 78-1A, p. 327-332.

Thomson, R.E. and W.S. Huggett. 1980. $M_2$ baroclinic tides in Johnstone Strait, British Columbia. J. Physical Ocean., in press.

## 9. List of Figures